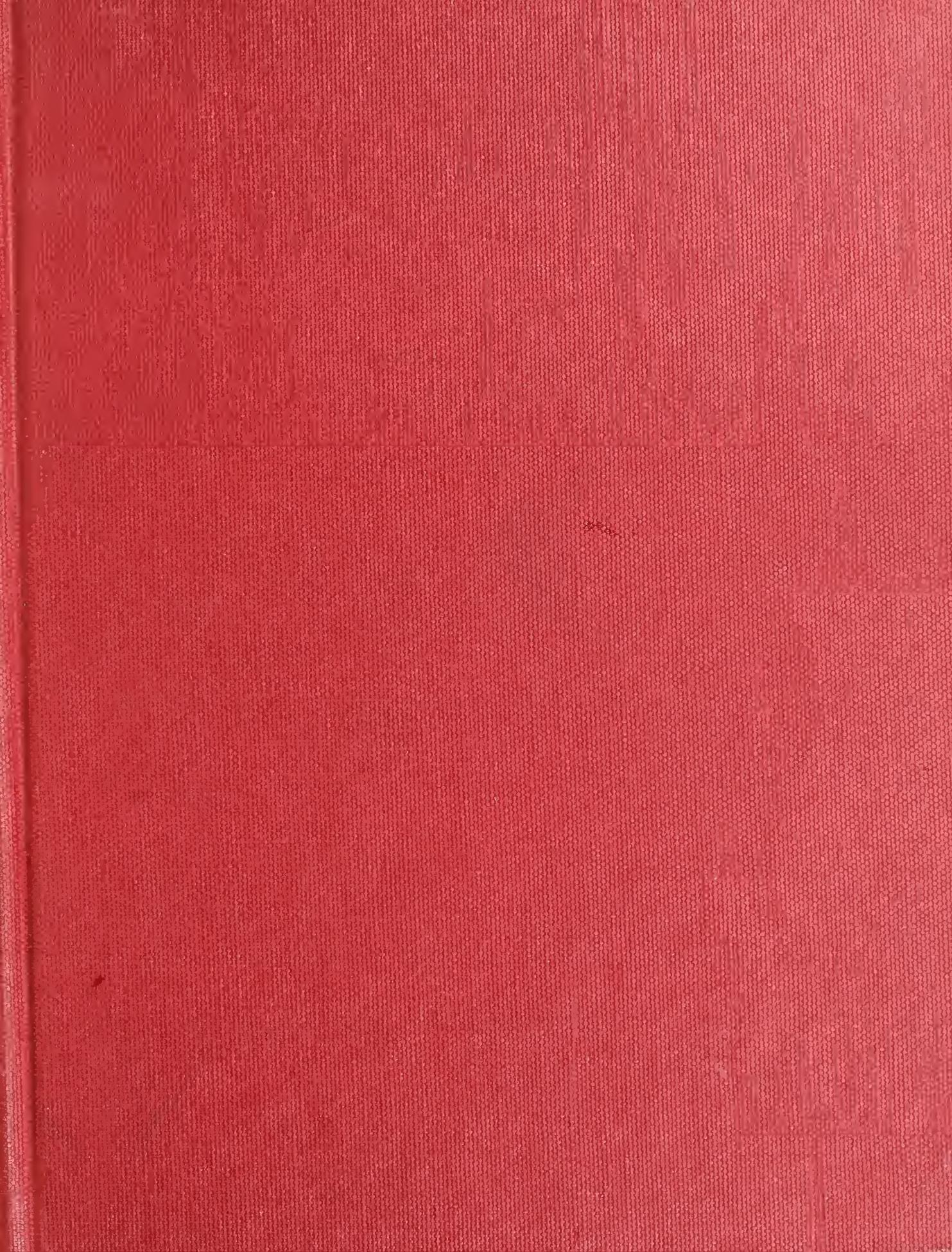
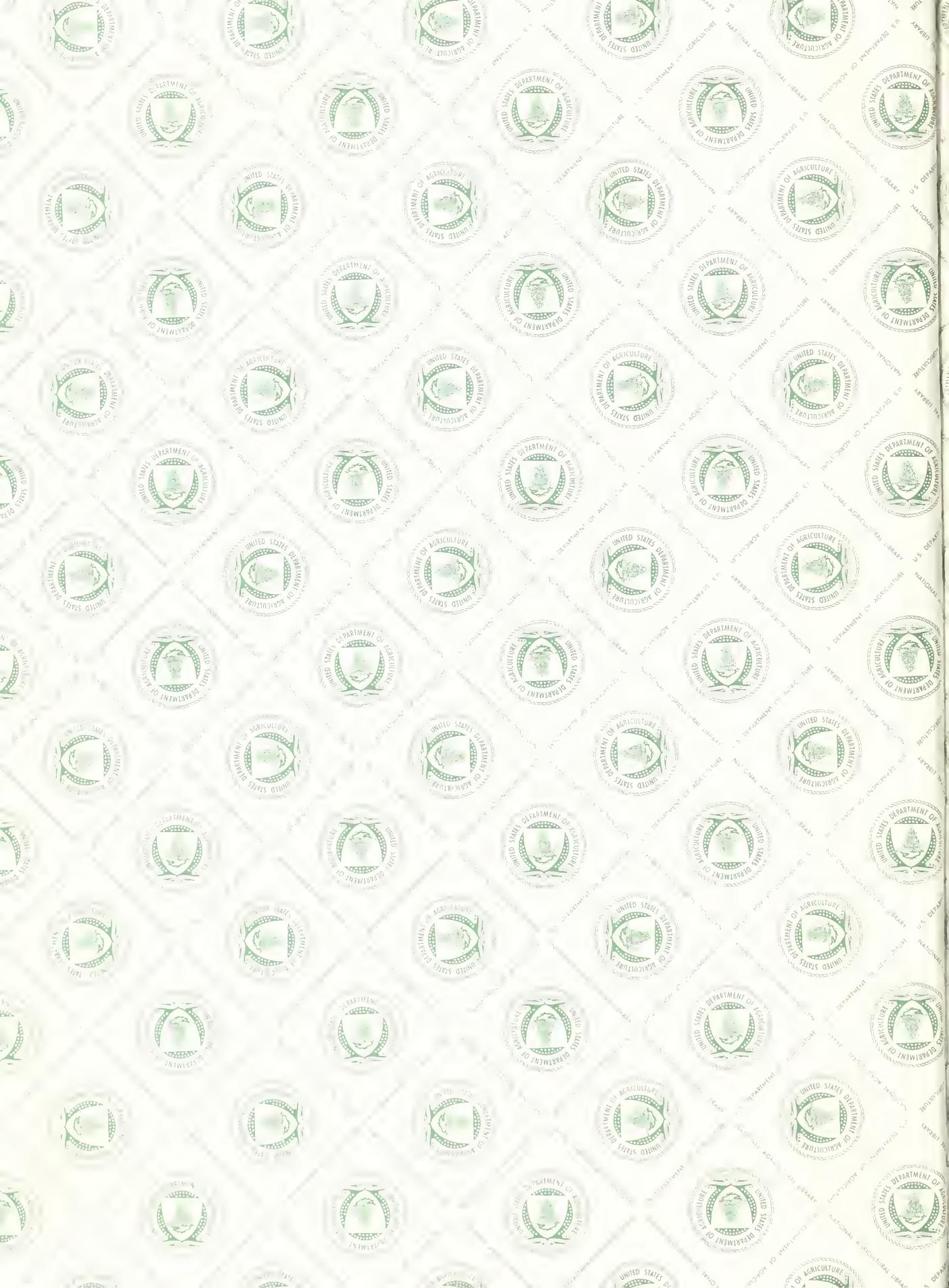


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V

MONDAY MORNING 2/17/69 GENERAL ECONOMIC OUTLOOK OF 1969

9:30 OPENING OF CONFERENCE---CLIFFORD M. HAREN, SECRETARY OF AGRICULTURE

10:00 NATIONAL ECONOMIC SITUATION AND OUTLOOK FOR 1969---JOHN W. KENDRICK

10:45 INTERNATIONAL ECONOMIC SITUATION AND OUTLOOK FOR 1969---WILLIAM F. BUTLER

11:15 PANEL DISCUSSION---M.L. UPCHURCH

MONDAY AFTERNOON 2/17/69 INTERNATIONAL SITUATION AND IMPACT ON AGRICULTURE

1:15 AGRICULTURAL PROSPECT FOR 1969---RAYMOND A. JOANES

2:00 AGRICULTURAL DEVELOPMENT IN OECD COUNTRIES AND IMPLICATIONS FOR TRADE---A. SIMANTOV

3:15 WORLD FOOD SITUATION IN PERSPECTIVE---QUENTIN M. WEST

ROOM 6-52, U.S.D.A. SOUTH BUILDING

MONDAY AFTERNOON 2/17/69 HOUSING FOR FAMILIES

1:15 NEW PROGRAMS IN RURAL HOUSING---LOUIS D. MAJOTKY

2:00 NEW PROGRAMS IN URBAN HOUSING---CARL A.S. COAN (THIS TALK IS ABOARD)

3:00 NEW METHODS IN FARMHOUSE CONSTRUCTION---W. RUSSELL PARKER

THOMAS JEFFERSON AUDITORIUM
U.S.D.A. SOUTH BUILDING

TUESDAY MORNING 2/18/69 RURAL LIFE DEVELOPMENT AND SITUATION

9:15 RURAL CHANGES IN THE 1960---C. EDWARDS & C.L. BEALE

9:45 RURAL CHANGE-PERSPECTIVES FOR THE 1970's---JOHN H. SOUTHERN

10:15 TOPICS AFFECTING RURAL INSTITUTIONS---C.S. RAUCHFORD

TUESDAY AFTERNOON 2/18/69 AGRICULTURAL SITUATION AND OUTLOOK

1:30 DYNAMICS OF COMMERCIAL AGRICULTURE---M.L. UPCHURCH

2:15 LOOK AHEAD FOR THE AGRIBUSINESS INDUSTRIES---KENNETH R. FERRELL

3:30 AGRICULTURAL SITUATION AND OUTLOOK FOR 1969---REIL F. DALY

GENERAL INFORMATION
J.S. DIAZ, SECRETARYWEDNESDAY 2/19/69 LIVESTOCK AND FEED OUTLOOK

9:15 OUTLOOK FOR LIVESTOCK AND POULTRY---D. SEABORG & O.C. HESTER

9:40 OUTLOOK FOR FEED---MALCOLM CLOUGH

DAIRY PRODUCTS

11:15 DAIRY OUTLOOK---ANTHONY G. MATHIS

ARTS AND CRAFTS GALLERY AUDITORIUMCOTTON AND OTHER FIBERS

11:00 COTTON AND OTHER FIBERS OUTLOOK---JAMES R. DONALD

INSTITUTE OF HISTORY AND TECHNOLOGY AUDITORIUMFOOD GRAINS

11:30 OUTLOOK FOR WHEAT IN 1968/69---WM. R. ASKEW

RICE OUTLOOK---WM. R. ASKEW

SEEDS, OILSEEDS, FATS AND OILSWEDNESDAY AFTERNOON 2/19/69

2:00 OUTLOOK FOR OILSEED, FATS, AND OILS---GEORGE W. KROMER

FRUITS AND VEGETABLESARTS AND CRAFTS GALLERY AUDITORIUM

2:00 OUTLOOK FOR FRUITS IN 1969---CHARLES R. BRADER

2:15 OUTLOOK FOR VEGETABLES AND POTATOES---DONALD S. KURYLOSKI
ROOM 3056 U.S.D.A. SOUTH BUILDINGTOBACCO

2:00 OUTLOOK FOR TOBACCO---ROBERT H. MILLER

2:25 LONG RANGE INSPECTS FOR DOMESTIC
CONSUMPTION OF CIGARETTE TOBACCO---ARTHUR G. CONOVERROOM 1415 U.S.D.A. SOUTH BUILDINGSUGAR

THERE IS NOTHING IN THIS VOLUME ABOUT.

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CONFERENCE ROOM 13, MUSEUM OF
NATURAL HISTORY

WEDNESDAY MORNING 2/19/69 foods and nutrition

9:30 DIETS OF MEN, WOMEN, AND CHILDREN---DANIEL A. SWOPE

9:45 DIETS OF LOW-INCOME FAMILIES---J.A. EAGLES

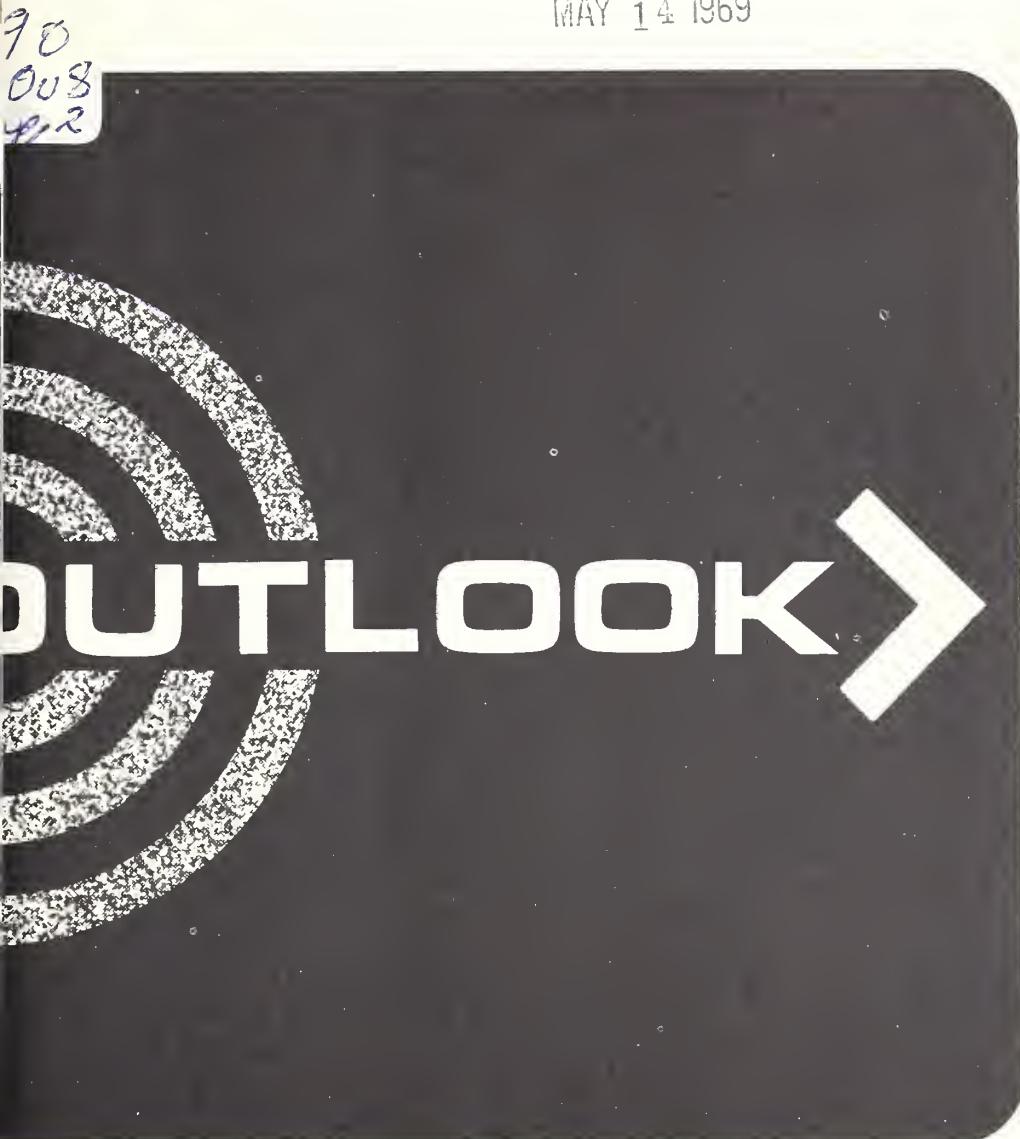
11:30 NEW DEVELOPMENT IN U.S.D.A. FOOD
PROGRAMS---HOWARD P. DAVIS

THE FARM INDEX

NATIONAL AGRICULTURAL OUTLOOK CONFERENCE
U.S. DEPARTMENT OF AGRICULTURE WASHINGTON D.C.
February 17-19, 1969

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Monday Morning, February 17

GENERAL SESSIONS

9:00 REGISTRATION: USDA South Building, 5th Wing Lobby,
Independence Avenue, S. W.

General Economic Outlook for 1969

Thomas Jefferson Memorial Auditorium
USDA South Building

M. L. Upchurch, Administrator,
Economic Research Service, USDA, Chairman

9:30 Opening Of Conference--Clifford M. Hardin, Secretary of Agriculture

10:00 National Economic Situation And Outlook For 1969--John W. Kendrick, Professor, George Washington University

10:30 INTERMISSION

10:45 International Economic Situation And Outlook For 1969--William F. Butler, Vice President, Chase Manhattan Bank

11:15 PANEL DISCUSSION--M. L. Upchurch, USDA, Moderator
John W. Kendrick, George Washington University
William F. Butler, Chase Manhattan Bank
Charles L. Schultze, Senior Fellow, Brookings Institution

International Situation and Impacts on Agriculture

Thomas Jefferson Memorial Auditorium
USDA South Building

Terry E. Arnold, Chief, Food for Freedom Division,
Department of State, Chairman

1:15 Agricultural Trade Prospects For 1969--Raymond A. Ioanes,
Administrator, Foreign Agricultural Service, USDA

2:00 Agricultural Developments In OECD Countries And Implications
For Trade--Albert Simantov, Director of Agriculture,
Organization for Economic Cooperation and Development

2:45 INTERMISSION

3:15 The World Food Situation In Perspective--Quentin M. West,
Director, Foreign Regional Analysis Division, Economic
Research Service, USDA

4:00 PANEL DISCUSSION--Terry E. Arnold, Department of State,
Moderator
Raymond A. Ioanes, USDA
Albert Simantov, OECD
Quentin M. West, USDA
H. Brooks James, Dean of School of Agriculture and Life
Sciences, North Carolina State University

NOTE - Family Living Sessions are also being held Monday
afternoon. See page 9.

Rural Life Development and Situation

Thomas Jefferson Memorial Auditorium
USDA South Building

Lloyd H. Davis, Administrator,
Federal Extension Service, USDA, Chairman

9:15 Rural Change in the 1960's--W. Clark Edwards, Chief, Area Analysis Branch, Economic Development Division, Economic Research Service, USDA, and Calvin L. Beale, Leader, Population Group, Economic Development Division, Economic Research Service, USDA

9:45 Perspectives for the 1970's--John H. Southern, Director, Economic Development Division, Economic Research Service, USDA

10:15 Response of Our Institutions to Changes in Rural Life--C. Brice Ratchford, Vice-President of the University of Missouri for Extension

10:45 INTERMISSION

11:00 PANEL DISCUSSION--Lloyd H. Davis, USDA, Moderator
W. Clark Edwards, USDA
John H. Southern, USDA
C. Brice Ratchford, University of Missouri
G. L. Vandenberg, Assistant Extension Director, University of Wisconsin
A. R. Cavender, Chairman, Resource Use Division, Department of Agricultural Economics, Auburn University

Agricultural Situation and Outlook

Thomas Jefferson Memorial Auditorium
USDA South Building

Francis A. Kutish, Staff Economist,
Agricultural Economics, USDA, Chairman

- 1:30 Dynamics of Commercial Agriculture--M. L. Upchurch,
 Administrator, Economic Research Service, USDA
- 2:15 A Look Ahead for the Agribusiness Industry--Kenneth R.
 Farrell, Acting Assistant Administrator, Economic
 Research Service, USDA
- 3:00 INTERMISSION
- 3:30 General Agricultural Situation and Outlook for 1969--
 Rex F. Daly, Acting Director, Economic and Statistical
 Analysis Division, Economic Research Service, USDA
- 4:00 PANEL DISCUSSION--Francis A. Kutish, USDA, Moderator
 M. L. Upchurch, USDA
 Kenneth R. Farrell, USDA
 Rex F. Daly, USDA
 J. Carroll Bottum, Assistant Head, Cooperative Extension
 Service, Purdue University
 Henry B. Arthur, Moffett Professor of Agriculture and
 Business, Graduate School of Business Administration,
 Harvard University

Livestock and Feed Grains

Jefferson Auditorium, USDA South Building

G. Alvin Carpenter, Extension Economist,
University of California, Chairman

9:15 Livestock and Poultry Outlook--Donald Seaborg and
Opie C. Hester, ESAD, ERS, USDA

9:40 Feed Grains Outlook--Malcolm Clough, ESAD, ERS, USDA

10:00 PANEL DISCUSSION--G. Alvin Carpenter, University of
California, Moderator
Donald Seaborg, Malcolm Clough, and Opie C. Hester
Will H. Walther, Statistical Reporting Service, USDA
James P. Hartman, Foreign Agricultural Service, USDA
Jerry Goodall, Consumer and Marketing Service, USDA
Kennard O. Stephens, Agricultural Stabilization and
Conservation Service, USDA

11:00 ADJOURN (See p. 9 for informal session)

Dairy Products

Jefferson Auditorium, USDA South Building

Roger H. Wilkowske, Economist, Dairy Marketing,
Federal Extension Service, USDA, Chairman

11:15 Dairy Outlook--Anthony G. Mathis, ESAD, ERS, USDA

11:35 PANEL DISCUSSION--Roger H. Wilkowske, Moderator
Anthony G. Mathis, USDA
Gordon G. Butler, Statistical Reporting Service, USDA
Sidney Cohen, Agricultural Stabilization and Conservation
Service, USDA
Robert W. March, Consumer and Marketing Service, USDA
A. R. DeFelice, Foreign Agricultural Service, USDA

12:30 ADJOURN (See p. 9 for informal session)

Cotton and Other Fibers

Auditorium, Freer Art Gallery

Edgemond P. Callahan, Economist, Farm Management,
Federal Extension Service, USDA, Chairman

11:30 Cotton and Other Fibers Outlook--James R. Donald,
ESAD, ERS, USDA

11:45 PANEL DISCUSSION--Edgemond Callahan, Moderator
James R. Donald, USDA
Grover C. Chappel, Staff Economists Group, USDA
Joseph A. Moss, Agricultural Stabilization and Conser-
vation Service, USDA
Stanley C. Rademaker, Consumer and Marketing Service,
USDA
Clyde J. St. Clergy, Public Affairs Specialist, Department
of Agricultural Economics and Agribusiness, Louisiana
State University
Charles H. Barber, Foreign Agricultural Service, USDA

12:30 ADJOURN (See p. 9 for informal session)

Food Grains

Auditorium, Museum of History and Technology

Buel F. Lanpher, Coordinator, Farm Management Programs,
Federal Extension Service, USDA, Chairman

11:30 Wheat Outlook--William R. Askew, Economic and Statis-
tical Analysis Division, Economic Research Service,
USDA

11:45 PANEL DISCUSSION--Buel F. Lanpher, USDA, Moderator
William R. Askew, USDA
Victor Senechal, Agricultural Stabilization and Con-
servation Service, USDA
C. V. Jean, Foreign Agricultural Service, USDA
William N. Starkey, Foreign Agricultural Service, USDA

12:30 ADJOURN (See p. 9 for informal session)

Oilseeds, Fats, and Oils

Auditorium, Museum of History and Technology
Constitution Avenue between 12th and 14th

Buel F. Lanpher, Coordinator, Farm Management Programs,
Federal Extension Service, USDA, Chairman

2:00 Fats and Oils Outlook--George W. Kromer, Economic
and Statistical Analysis Division, Economic Research
Service, USDA

2:20 PANEL DISCUSSION--Buel F. Lanpher, USDA, Moderator
George W. Kromer, USDA
Howard A. Akers, Foreign Agricultural Service, USDA
James E. Thigpen, Agricultural Stabilization and Conser-
vation Service, USDA

3:10 ADJOURN (See p. 9 for informal session)

Fruits and Vegetables

Auditorium, Freer Art Gallery
12th Street at Independence Avenue

John T. Porter, Marketing Economist,
Federal Extension Service, USDA, Chairman

2:00 Fruit Outlook--Charles R. Brader, Economic and Statis-
tical Analysis Division, Economic Research Service,
USDA

2:15 Vegetable and Potato Outlook--Donald S. Kuryloski,
Economic and Statistical Analysis Division, Economic
Research Service, USDA

2:30 PANEL DISCUSSION--John T. Porter, USDA, Moderator
Charles R. Brader, USDA
Donald S. Kuryloski, USDA
Gilbert E. Sindelar, Foreign Agricultural Service, USDA
Donald A. Thibeault, Consumer and Marketing Service,
USDA

3:10 ADJOURN (See p. 9 for informal session)

Tobacco

Room 3056, USDA South Building

Claude G. Turner, Director, Tobacco Policy Staff,
Agricultural Stabilization and Conservation Service, USDA

2:00 Tobacco Outlook--Robert H. Miller, Economic and Statistical Analysis Division, ERS, USDA

2:15 Longer-Range Prospects for Domestic Consumption of Cigarette Tobacco--Arthur G. Conover, Economic and Statistical Analysis Division, ERS, USDA

2:25 PANEL DISCUSSION--Claude G. Turner, USDA, Moderator
Robert H. Miller and Arthur G. Conover
Hugh C. Kiger, Foreign Agricultural Service, USDA
E. Leon Moore, Agricultural Research Service, USDA
Jack Thomasson, Consumer and Marketing Service, USDA
Joseph J. Todd, Agricultural Stabilization and Conservation Service, USDA

3:10 ADJOURN (See p. 9 for informal session)

Sugar

Room 1415, USDA South Building

Tom O. Murphy, Director, Sugar Policy Staff,
Agricultural Stabilization and Conservation Service, USDA, Chairman

2:00 Sugar Outlook--Tom O. Murphy, USDA

2:15 World Trends in Sugar Production and Use--John I. Kross,
Director, Sugar and Tropical Products Division,
Foreign Agricultural Service, USDA

2:25 Impact of Non-Nutritive Sweeteners on the Sugar Market--
Roy Ballinger, Marketing Economics Division, ERS, USDA

2:35 Trends in Consumption of Sugar and Corn Sweeteners--
Frederick Gray, ESAD, ERS, USDA

2:45 DISCUSSION

3:10 ADJOURN

Housing for Families

Room 6451, USDA South Bldg.
Stella L. Mitchell, Home Management Housing
and Equipment Specialist,
Division of Home Economics
Federal Extension Service, USDA, Chairman

1:15 New Programs in Rural Housing--Louis Malotky, Rural
Loan Division, Farmers Home Administration, USDA

2:00 New Programs in Urban Housing--Carl A. S. Coan,
Assistant General Counsel for Legislative Policy, U.S.
Department of Housing and Urban Development

2:45 INTERMISSION

3:00 New Methods in Farmhouse Construction--W. Russell
Parker, Architect, Agricultural Engineering Division,
Agricultural Research Service, USDA

4:00 ADJOURN

Informal Commodity Sessions

Wednesday Afternoon, February 19

3:30

Tobacco	Room 3056 South Bldg.
Livestock and Feed	Room 3111-15 South Bldg.
Dairy	Room 2096 South Bldg.
Cotton and Other Fibers	Room 4306 South Bldg.
Food Grains	Room 6451 South Bldg.
Fats and Oils	Room 5221-23 South Bldg.
Fruits and Vegetables	Room 509-Admin. Bldg.
Forest Products	Room 3524 South Bldg.
Poultry	Room 0242 South Bldg.

5:00 ADJOURN

Foods and Nutrition

Conference Room 43, Museum of Natural History
Constitution Avenue at 10th Street

Faith Clark, Director
Consumer and Food Economics Research Division,
Agricultural Research Service, USDA, Chairman

9:00 Food Consumption of Men, Women, and Children--
Daniel Swope, Consumer and Food Economics Res.
Div., ARS, USDA

9:45 Diets of Low-Income Families--Juanita Eagles, Con-
sumer and Food Economics Res. Div., ARS, USDA

10:30 INTERMISSION

10:45 New Developments in Food Programs for the Aged--
Jessie S. Gertman, Project Specialist, Research and
Development Grants, Administration on Aging, U.S.
Department of Health, Education, and Welfare

11:30 New Developments in USDA Food Programs--Howard P.
Davis, Deputy Administrator, Consumer Food Pro-
grams, Consumer and Marketing Service, USDA

Low-Income Families

Jean L. Pennock, Chief, Family Economics Branch,
Consumer and Food Economics Research Division,
Agricultural Research Service, USDA, Chairman

1:30 The Changing Income Distribution--Herman P. Miller,
Chief, Population Division, Bureau of the Census

2:15 Probable Income Maintenance Programs--Robert Harris,
Executive Director, President's Commission on
Income Maintenance Programs

PROGRAM HIGHLIGHTS

- **General Economic Outlook**
February 17, A.M.

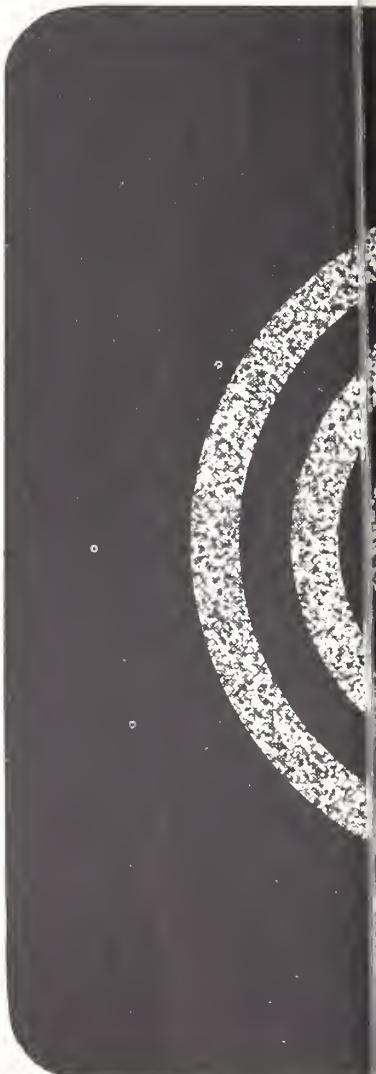
- **International Situation**
February 17, P.M.

- **Rural Life Session**
February 18, A.M.

- **Agricultural Situation**
February 18, P.M.

- **Commodity Sessions**
February 19, A.M. & P.M.

- **Family Living Sessions**
February 17, P.M.
February 19, A.M. & P.M.



U. S. Department of Agriculture

Office of the Secretary

I think it was in 1944 that I attended my first Outlook Conference. As I glance out over the faces here I see a number of people that I know were present in 1944 at that Outlook Conference. I see Carroll Bottum back there along the aisle and Fred Waugh and others throughout your group.

I don't know if you fellows have attended all of the Conferences since. I know that I have not. But I do know the importance, to agricultural people across the nation, of this opportunity to visit with a few of the people in government who may have some new statistics that haven't been published and that may give a little insight into what's going to happen in the next months -- as well as the opportunity to visit with each other and see who shares your prejudices. And there's always the concern that the majority may be wrong and all that sort of thing. It's a great game.

I don't have any great amount of wisdom to offer you this morning. But I thought I would mention two or three things that might be of interest to you as you are getting acquainted with a few new faces in Washington.

We've been underway here now about a month. You've all heard of these total immersion courses that people take when they want to learn languages in a hurry -- they don't do anything but study language -- eat and sleep it for six weeks. That's about what I've had these past six weeks -- government and agriculture and a little politics thrown in.

I'm going over at 10 o'clock to meet with the Urban Affairs Council. I think this is a significant development on the national scene, that President Nixon has chosen to establish this body with equal status and parallel to the National Security Council. It's getting a lot of attention.

A number of people have asked me over the past weeks why the Secretary of Agriculture should be a member of this Council. I suspect that doesn't need special explanation to this group, because all of you know that many of the programs that are designed to be of assistance to such areas as the innercity also have application in rural America.

It is the President's desire that I protect and look out for and speak to the interests of rural America in these endeavors. Indeed, he is looking to the Department of Agriculture to take a strong hand in attempting to coordinate the activities of other government agencies as they have application to rural America.

Another significant development that I think will be of interest to this group is the creation of the Council on Economic Development, made up of the Secretaries of Labor, Commerce, Agriculture, the Chairman of the Board of Economic Advisors, and the Director of the Budget, with some of the staff people from those offices.

Remarks of Secretary of Agriculture Clifford M. Hardin opening the National Agricultural Outlook Conference, Jefferson Auditorium, U. S. Department of Agriculture, Washington, D. C., February 17, 1969. (From transcript.)

This is a group whose charter is to look at the development of the economy, somewhat long-term, as contrasted to the economic advisors and the others who are almost of necessity involved in day-to-day, week-to-week activities, the balance of payments, the monetary situation, and so forth.

This group is charged with attempting to see whether we can indeed bring stability into the economic situation -- to perhaps prevent some of the types of things that bring shock.

I don't know whether the philosophy is going to be gradual growth or rapid growth or complete stabilization or what. I'm not sure that any group has this choice. But in any event we are to keep watching the different factors in the long term -- two years, five years, ten years down -- and see what the impact might be, and in a sense set up sideboards.

Here in the Department as we've attempted to use this time to reappraise -- and any time there are changes I think you should take stock and reappraise -- it is quite evident that the Department of Agriculture is going to continue to be involved, as it has been through all the years, with farm programs and all of the activities associated therewith.

But I think there are two new emphases that are clearly manifesting themselves. These are not strikingly new, but they are new in the sense of emphasis. One is the effort to remove malnutrition from our land.

The Department of Agriculture has been given the major responsibility for the distribution of food for welfare purposes. And the climate of the country seems to have shifted materially in the past several months, four or five months really, in terms of concern for malnutrition. It now appears that there indeed is support for moving ahead vigorously in this area. And we are hoping to move with every possible resource we can muster in this direction.

The framework already exists, of course, through the direct distribution program, the food stamp plan, the school lunch programs, and other special activities. These will continue to be expanded into new areas, of course, but there is this framework.

But I suppose that this is no different from any other broad scale Federal program. Well, maybe it is, because people are more directly involved. But it is our feeling, if it is going to be successful, if we are really going to remove malnutrition, that there has to be a great deal of educational work done.

In the final analysis it comes down almost to people-to-people. And we're going to appeal to the extension services, particularly the land grant institutions, but also to any other groups that will listen and will help, to aid with this educational endeavor, to make it a major project.

We've talked with some of them. They are responding very quickly. But we also hope that they will be able to encourage local groups, volunteer groups, people from the private sector, to become interested and involved and knowledgeable about the matter of nutrition. And if this will be done and if these types of groups will also help us to monitor the delivery of the food, which is often a headache -- all of these things can be helpful in moving ahead in a concerted way to finally, hopefully, remove malnutrition as a blight on our land.

Then, parallel with this, and more long term, we are going to be increasingly involved in the whole area of things that we call rural America -- activities outside the metropolitan areas. I suspect it is extremely important now, and timely, that we do this because many of the departments of government and many of the people in the private sector who are seriously concerned are going to be so preoccupied with the problems of the large cities and particularly the inner city that if there isn't some group making it their special business to think about the economic development of rural America, it could get lost in the shuffle. And that's where we come in.

And so I think we need to think -- and I invite you to think and plan and made suggestions -- as to how we may be able to improve the quality of living in rural America.

And then go one step further. One of our subcommittees is dealing with rural urban migration. If the demographers are correct, and we are going to have something on the order of another 100 million people in the next 30 or so years, plus or minus, where are they going to live? Are they going into the Chicagoes and New Yorks and Los Angeleses in the same percentages and proportions and ratios that they are now? Or are we going to develop new growth points throughout America -- in our smaller cities, in our county seat towns, in new cities yet to be started?

If the latter is going to happen, then planning has to begin now. This is one of the reasons we need to step up our effort to take stock of the service activities, such mundane things as sewer systems and water systems and electric utilities in our small towns and cities across America.

Another area that I think is of special interest again to this group -- most of you are interested in the economics of agriculture -- is the area of export markets for farm products. This is not new, but there are some new problems. I hope that all of us working together -- whether we are in the land grant institutions or in the Department of Agriculture or in the private sector or wherever we may be -- will study and be alert and try to be helpful in our efforts to hold and expand our foreign markets for farm products.

(more)

I suspect at this meeting you will be giving special attention to the situation in the European Economic Community, the policies that are being followed in those countries as they have impact on agricultural exports from this country, commodity by commodity. And indeed they are having impact on our exports.

Well, these are a few of the things that we're giving attention to as we move in and try to learn more about the programs of the Department.

My final thought is this. I hope in the months ahead that we can do everything possible to make this long term partnership between the Department of Agriculture and the land grant institutions especially, but all the universities -- I hope we can make this an even more real partnership than it has been in the past.

Certainly in looking at the objectives, the programs, the activities of the Department of Agriculture, we see that a great many of them can be expanded and improved if there are close working relationships with the people in the institutions. And we hope to encourage this.

The same thing goes for the people in the state departments of agriculture. Here is another area that we intend to spend time on. We are concerned right now with what can be done to improve the meat and poultry inspection activities. Inspection is needed as a protection to the consumer, but also it needs to be done efficiently and more uniformly apparently than has been the case over the past many years.

We've asked the directors of agriculture to come up with a plan that they feel is satisfactory -- perhaps we can even move in the direction of a Federal-State label that will permit products to move uniformly in interstate commerce on down the road. At least it's a hope.

These are just a few thoughts. May I say that we welcome those of you coming in from the outside to the Department and we hope that this Outlook Conference will be the most fruitful one ever and that all your predictions will be correct.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATIONAL ECONOMIC SITUATION AND OUTLOOK FOR 1969

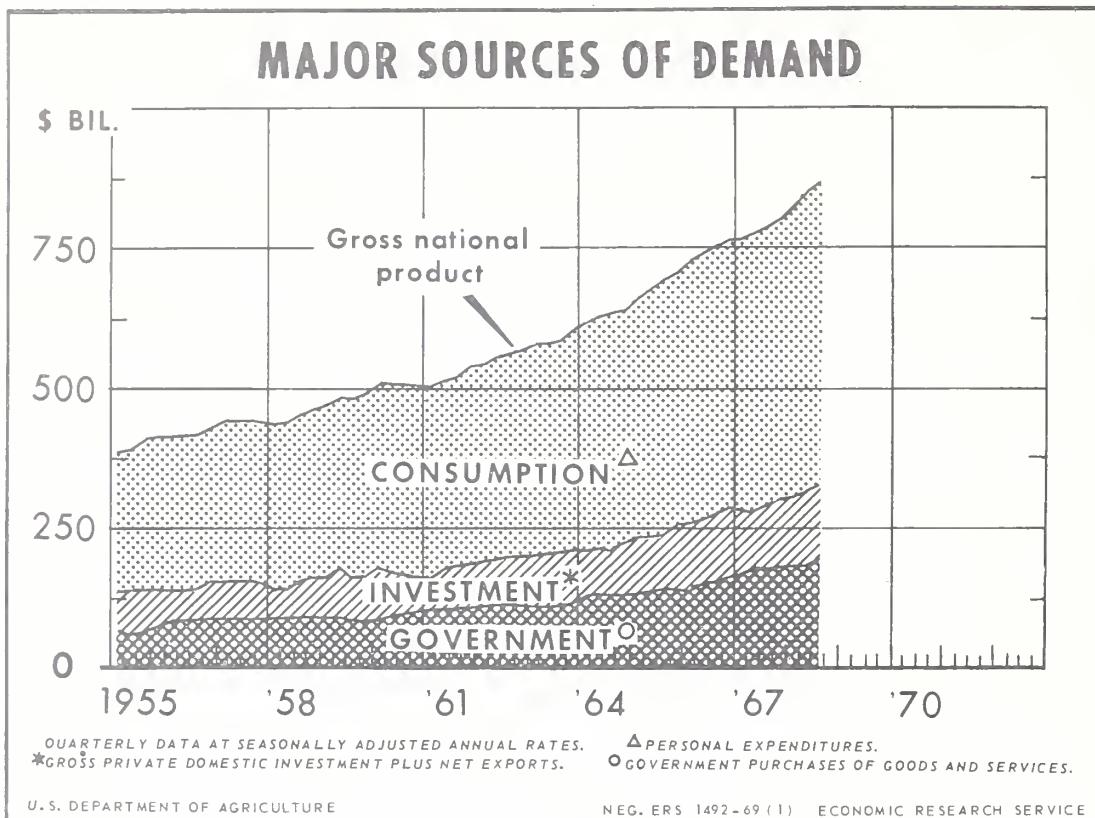
Talk by John W. Kendrick
Professor of Economics, The George Washington University;
Research Director, Total Investment Project
at the Annual Agricultural Outlook Conference
Washington, D.C., 10:00 A.M., Monday, February 17, 1969

The current month of February, 1969 marks the beginning of the ninth year of continuous expansion of general economic activity in the United States. (See Chart.) In the first half of 1967, we experienced a marked slowdown of the expansion, but by the time of our last Agricultural Outlook Conference in November, 1967, it was apparent that the economy had resumed its forward momentum. At that time, I forecast an increase of GNP for 1968 of possibly \$60 billion. The actual increase has turned out to be \$71 billion, according to preliminary estimates. This is significantly more than was generally foreseen, and more than was desirable in that about four percentage points of the nine percent annual increase represented price inflation. In looking ahead to the year 1969 as a whole, the consensus of economic forecasters calls for continuation of the economic expansion but at a slower rate. An increase of around seven percent over 1968 is projected in the January 1969 Annual Report of the old Council of Economic Advisers, about half of which represents real growth.

Since forecasting is not an exact science, the seven percent number obviously lies within a band of uncertainty. My own prognosis is that a somewhat smaller increase is probable -- and desirable -- if the new Administration is serious about making disinflation the first order of business on the economic policy agenda for the current year.

Review of 1968

Before discussing the outlook in some detail, it will be useful to review in summary fashion what happened in 1968. Looking at proportionate changes between the fourth quarters of 1967 and 1968, total GNP increased by 9 1/2 percent, even more than the annual increase as a whole. This marked expansion was



fueled by almost 12 percent advances in gross private domestic investment including a bulge in inventory accumulation and in non-defense purchases by Federal, state and local governments. Federal defense outlays slowed to a seven percent increase. Personal consumption expenditures advanced by less than nine percent--despite a very large increase in outlays for durable goods. The income tax surcharge cut the expansion of disposable personal income below that of GNP -- although this was partially offset by a somewhat reduced personal saving rate in the second half of 1968.

Real GNP (in constant dollars) rose by 5 1/2 percent between the fourth quarters of 1967 and 1968 -- well above the secular growth of capacity, which is estimated at between 4 and 4 1/2 percent. As a result, the rate of unemployment fell from 3.8 percent to 3.3 percent in November and December 1968 -- the lowest rate since 1953.

Percent Changes in GNP, and Prices; and the Unemployment Rate
 Half-years, 1965-1968 (Adjusted for Seasonal Variations)

Year	Semi-Annual Percent Changes				Unemployment Rate: Unemployment as per- cent of civilian labor force
	At Annual Rates			Implicit	
	Gross National Product			price	
	Current dollars	Constant dollars	deflator		
1965-1	8.5	6.4	2.0		4.8
-2	9.4	7.8	1.4		4.3
1966-1	9.6	6.8	2.8		3.8
-2	7.2	3.8	3.4		3.7
1967-1	4.1	1.3	2.8		3.8
-2	6.9	3.4	3.4		3.9
1968-1	9.7	5.7	3.9		3.6
-2	8.9	5.1	3.8		3.5

Source: Office of Business Economics and Bureau of Labor Statistics

The most disturbing aspect of the expansion was the almost four percent increase in the implicit price index used to deflate GNP -- and a greater than four percent increase in the consumer price index, between the fourth quarters. This compares with an average annual rate of increase of about 1 1/2 percent between 1960 and 1965; 2 1/2 percent 1965-1966; and around 3 percent 1966-1967 despite the brief slow-down of that year. In other words, as the economy has grown within the "full employment" range for the past 3 1/2 years, there has been a tendency for the pace of price inflation to accelerate. Even with the mild deceleration in the expansion of total demand in the second half of 1968, there has been no slowing in the pace of inflation (see Table). In fact, it would seem that businessmen in their investment planning have been gripped by an inflationary psychology, which has shown some indications of spreading in consumers. It is this factor which has led our economic policy-makers to aim for a significant further slowing-down in the pace of expansion during 1969, with the objective of reducing the rate of increase in the general price level to a more acceptable pace.

Assumptions for 1969

This brings us to the economic outlook for 1969. First, I must state my assumptions with respect to certain non-economic variables, and the economic policies that are likely to follow from these and other considerations, which in turn will have an important bearing on the course of GNP. I would assume that if a peace is negotiated in Vietnam, it will come too late to affect the Federal Government budget as it relates to calendar year 1969. If some reductions are achieved in military expenditures in Southeast Asia, as seems probable as a result of reduced American operations, it is likely that this will be offset by increased defense outlays on projects that have been deferred. Therefore, total national defense purchases will show little change, coupled with a modest increase in non-defense purchases. It is further assumed that the 10 percent tax surcharge will be retained to provide a modest budget surplus throughout the year. This, obviously, also predicates that the Asian conflict will not be re-escalated and that new major conflagrations will not be ignited elsewhere. If events call for a sharp change in defense expenditures in either direction, we would be in a different ball game, and the economic outlook and associated policies would have to be re-evaluated.

My second major assumption is that monetary policy will continue relatively tight for some time to come--at least until there is concrete evidence for several months that inflationary expectations have been reduced, as reflected in a significant slowing-down in the rate of advance in the general price level over a period of several months -- which would carry us well into the last half of the year. This assumption seems reasonable in the light of strong statements made by the leading spokesmen for the new administration in the economic sphere, concerning the desirability of disinflation. Even more importantly, this view appears to be shared by the Board of Governors of the Federal Reserve System, and has been reflected by the Board's actions in recent weeks. Briefly stated, by permitting short-term interest rates to rise, while maintaining a ceiling on interest rates paid by member banks (through Regulation Q), the Board has effectuated some run-off of deposits and a slow-down in the extension of credit. It appears that the Board is aiming for a marked deceleration in the rate of increase of bank credit and the money supply during 1969, in contrast to last year's trend. Assuming this policy is not prematurely reversed--and I believe that the lessons of 1967 have been learned--the deceleration in the increase of the money supply coupled with continued relatively high interest rates should succeed in cooling-off the investment boom this year.

On the other hand, I would not expect an over-kill. Underlying demands are so buoyant now, and well into the '70's, that if the economy threatens to reverse

its field, I believe that a timely easing of monetary and fiscal policy can avert a business contraction. And while our economic policy-makers unquestionably wish to "prick the inflationary bubble" by a temporary slow-down in economic expansion, I am convinced they are sincere in wishing to avoid a large increase in unemployment that a recession would bring.

Outlook for GNP components

Given this background, what can we expect with respect to the behavior of the major components of final demand, and aggregate GNP in current and constant prices?

Starting with the government sector, it seems certain that state and local government purchases will rise strongly throughout the year, adding at least \$10 billion in total. The current and proposed budget estimates imply that Federal Government purchases will add \$3 to 4 billion, including the pay increase at mid-year which alone amounts to \$2.8 billion at annual rates. This means that in real terms there will be little change in Federal purchases of goods and services, granted our assumptions about national defense. The new Budget Director has said the budgeted expenditures will be subjected to close scrutiny in an effort to find places for possible reductions. But the Budget is generally viewed as being fairly tight, and the bulk of the proposed expenditure increases are mandatory under current legislation. It does not seem probable that a major net reduction will take place. If it did, this could open the way for a reduced sur-tax, which would tend to offset the restraining effect on the economy of expenditure cuts.

Gross private domestic investment, which provided much of the steam to the boom of 1968, will be slowed down significantly by the disinflationary policies of 1969. Before looking at the components, I should like to consider profit prospects since these lie at the heart of private investment decisions. As to labor costs, increases in wage-rates are unlikely to fall much below the 7 percent range of last year. It is true that there are fewer major new contracts to be negotiated this year, and that the percent increases on contracts now in force tend to be a bit less than those of last year. Some slowing in the advance of the consumer price index will help both in new contract negotiations, and in old contracts with escalator clauses. Some reduction in the tightness of selected labor markets as the year progresses may also help mitigate wage-rate increases by late 1969--but remember that "wages lag," so most of the decelerating effect may not be felt until 1970. Furthermore, what deceleration comes this year will probably be offset by a moderate deceleration in productivity advance. Real product per manhour last year rose at about the long-term rate of a little

over 3 percent. But a slow-down in the growth of production and an increase in unused capacity tend to dampen productivity advance. So I would expect unit labor cost in 1969 to rise by at least the 4 1/2 percent experienced by the private non-farm economy in 1968. In conjunction with a slowing of the general price index to something less than 4 percent, this would mean a moderate squeeze on profit margins after the current quarter. Although this would be largely offset by an increase in dollar volume as far as total profits are concerned, even an unchanging total would represent a decline in margins on sales and a drop in the rate of return on investment.

A mild decline in the profit rate will help reduce inflationary expectations and tend to level-out or possibly reduce capital expenditure plans. This tendency will be re-enforced by some increase in unused capacity. The rate of utilization of manufacturing capacity, for example, could well drop from the recent 84 percent to nearly 80 percent by the end of the year, given the rapid growth of capacity created by the current high level of investment, and the slower growth of production we project.

Outlays for new plants and equipment are slated to rise to new highs in the current quarter, reflecting the buoyancy of expectations that prevailed in 1968. But for the reasons just presented, I expect plant and equipment outlays to tend to level out in subsequent quarters. Indeed, a decline is not beyond the realm of possibility. Even a cessation of further expansion means that plant and equipment expenditures in 1969 would exceed 1968 by 8 percent or more. But it is the leveling-out during the year that is important for the economic outlook.

The rate of inventory accumulation is likely to drop from the almost \$8 billion rate of 1968, and even more from the \$10 billion preliminary estimate for the fourth quarter. A slowing in the growth of output itself tends to produce an absolute decline in inventory investment. This tendency will be enhanced by continued high interest rates and the greater difficulty of bank borrowing.

Residential construction, the other major component of domestic investment, is particularly sensitive to monetary tightness. Expenditures are still rising, but tighter money is likely to cause a leveling. I feel sure that the monetary authorities will wish to avoid the disintermediation of late 1966 which affected savings institutions, reduced mortgage lending and produced a sharp drop in starts. This year any decline will probably be mild, and the annual total is likely to exceed the 1 1/2 million units started in 1968. The strength of underlying demand is great, given the accelerated pace of marriages and family formation generally. Indeed, if monetary restraint is eased somewhat in latter 1969, new construction activity could easily pick up by the end of the year.

With regard to net exports, a growth rate of real GNP in the United States below that of our trading partners could mean a modest increase in the net trade balance. This, plus continuing high interest rates, could help us hold on to the recent improvements in the overall balance of payments--but I shall leave further discussion of this esoteric subject to William Butler.

The increases in business investment and government purchases, given the contemporary multipliers, should result in a 5 to 6 percent increase in personal income and outlay in 1969 over 1968. A higher rate of advance in the first half will be moderated somewhat with regard to disposable personal income by the effects of increased social security taxes in January, and the heavy final tax settlements in the second quarter.

These effects on consumer spending may be reduced by some lowering of the personal saving rate, although it should be noted that recent surveys of consumer buying plans suggest a moderately restrained attitude. On balance, personal consumption expenditure may increase by between \$25 and \$30 billion between the fourth quarters of 1968 and 1969.

Aggregate Summary

What does this discussion add up to with respect to GNP and other aggregate variables? For the year 1969 as a whole, my projection of GNP does not fall much below the old Council's figure of \$920 billion. Assuming that GNP has advanced from \$888 billion in the fourth quarter of 1968 to around \$900 billion in the first quarter of 1969, even with a further slowing of advance during the year, it is difficult not to come up with an increase of between 6 and 7 percent from 1968 to 1969 as a whole.

The more significant difference between my projection and that contained in the recent Economic Report is that I have a slower rate of increase during 1969--less than 5 percent between the fourth quarters of 1968 and 1969, compared with the 6 percent rise explicitly projected by the Council. The difference largely reflects my expectation of a somewhat tighter monetary policy, applied for a more prolonged period of time, than was apparently assumed by the previous Council.

In particular, my projection implies that the rate of increase in GNP will not pick up again after mid-year, as was forecast by the Council. This means that after the first quarter, the physical volume of production will flatten out, with the indicated rise of current-dollar volume due largely to continued price rises. The pace of price inflation may be expected to decelerate somewhat as

the year wears on. The decreasing pressures of demand, and a modest increase in the unemployment rate will contribute to this result, as will the anticipated levelling-out of some farm and food prices which will be discussed in subsequent sessions of this conference.

The impact of a virtual levelling in production on unemployment will be mitigated somewhat by a decline in average hours worked per week, and by the lower rate of advance in real product per manhour, mentioned earlier. It is unlikely that the unemployment rate will move up beyond the "full employment" range of 3 1/2 to 4 1/2 percent of the labor force, as recently defined by Presidential Counselor Arthur F. Burns.

If the unemployment rate rises to 4 percent or more in the latter part of the year, and if the rate of price advance slows to something nearer to 3 percent compared with the recent 4 percent rate, we may expect some easing of restrictive policies. The political consequences of economic recession are even more unfavorable than those of inflation in the present era, and the Nixon Administration may be expected to try to avoid an actual downturn. The underlying demand pressures are buoyant enough that the economy is likely to expand promptly in response to encouragement by the policy-makers. Thus, it seems likely in the year 1969 that we shall witness a degree of disinflation without a recession. The benefits of such a readjustment should carry over into 1970, and prepare the way for renewed strong expansion on a sounder basis than exists at the present time.

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UNITED STATES DEPARTMENT OF AGRICULTURE
INTERNATIONAL ECONOMIC SITUATION AND OUTLOOK FOR 1969

Talk by William F. Butler
Chase Manhattan Bank
at the Annual Agricultural Outlook Conference
Washington, D.C., 10:45 A.M., Monday, February 17, 1969

I wish it were possible to report to you that I find the general outlook for the world economy most propitious for the year ahead. Unfortunately, the nature of the political, social and economic problems confronting most of the world's nations is such that one can only report that continued difficulties lie ahead. This is not to say that the picture is universally bleak. The common market countries promise to achieve a good rate of growth, and Japan should again mark up a formidable rate of advance. Necessary adjustments to contain domestic inflation could be carried through in the U.S., the U.K., Canada and France.

However, the important fact is that the world economy is not working as well as it could and should. That this is not entirely an economic matter is shown by a quick review of the fantastic events of 1967/68. I refer to the devaluation of the pound, the gold crisis and the suspension of the support of the free market price of gold, the riots in France and elsewhere, the Russian invasion of Czechoslovakia and the Middle East problem. There is little reason to expect any greater stability in the world during the year ahead. And the simple fact is that the world financial structure is not well adapted to deal with such problems. This is not to say a severe crisis is inevitable--my guess is that we shall continue to muddle through. But the risks of crisis are mounting, and the muddling-through process seriously inhibits the world's ability to deal with more important matters.

Trade Restrictions

It seems to me that recent experience points to the need for two basic changes in the world economic matters--new methods for undertaking balance of payments adjustments and new initiatives for lowering barriers to world trade and investment. These are extremely complex and technical matters. Yet, they are too important to be left to the experts.

One of the great dangers in the current situation lies in the increasing resort to controls and restrictions to deal with what are thought to be temporary balance of payments problems. This nation is about as guilty as any other. We have a full-fledged system of exchange controls over foreign investment, import quotas in a number of important areas, and so-called voluntary arrangements in such areas as cotton textiles. Demands for quotas in a long list of other fields are gaining strength.

At the same time, other nations have been turning increasingly to restrictionist policies. France and Germany imposed new controls against capital investment last year, while the British have had them for some time. Britain and France have installed barriers against imports.

The problem is that such moves to restrict the free movement of trade and investment can cumulate. Carried too far, they can choke off the interchange of people, investment and goods which has played such an important part in the general world prosperity of the past two decades. One has only to hark back to the stagnation of the 1930's to appreciate the importance of these trends.

All of this is especially important to the U.S. Because of our preponderant position in the world, restrictive moves on our part are bound to evoke retaliation elsewhere. Individual industries may believe they have a powerful case for quotas or restrictions. Yet they can lose, along with everyone else, if world commerce gets enmeshed in a network of controls.

In making these points, I am aware of the fact that the free movement of goods and capital is an ideal which may take many decades to accomplish. I would not favor the quick elimination of all tariffs, quotas and other barriers. This could prove quite unsettling. There may well be cases where the nature of foreign competition is such that some restrictions are needed. In other cases, industries are entitled to a period in which they can adjust to the free but chill winds of international competition. This is one of the imaginative ideas underlying the European Common Market--tariffs were to be eliminated over a period long enough to facilitate adjustment.

But what I am concerned about is the general direction of world economic affairs. Until some three years ago, the world was moving along a path which promised to lead to steady liberalization of world economic affairs. Now we seem to have come almost full face around to the road towards restrictionism.

Balance of Payments Problems

This move towards controls was not deliberately planned. It has come about because nations have had to deal with balance of payments problems. Nor were the balance of payments problems planned. They came about primarily because of domestic inflation, and partially because of ambitious overseas commitments on the part of some nations, notably the U.S. and the U.K.

The basic remedies appear quite obvious. Nations in balance of payments deficit should get domestic inflation under control and restrict foreign commitments. This is obviously easier to say than to do. The travail of both the U.S. and the U.K. in recent years attests to the difficulties. Yet under the current system of fixed exchange rates, there is no good alternative other than measures to restraint in the two leading deficit nations. Even the devaluation of the pound sterling proved to be no substitute for measures to quench domestic inflation at the cost of higher unemployment.

This raises the question as to whether there might not be a better way to arrange the world's financial affairs. One theoretical way out would be to adopt a system of flexible exchange rates. This is very neat in theory, but no one believes it would work in practice. Another suggestion is that the price of gold should be doubled or trebled. This could prove to be highly inflationary, and it would merely delay the day of reckoning. Sooner or later, and probably sooner, we would be up against the same problems again.

Yet there are some things which might prove both useful and acceptable. One measure which has already been invented, though not as yet adopted, is to create what has been termed Selective Drawing Rights, or SDR's. This is like printing money, an ancient practice of governments which is sometimes honorable and sometimes disastrous. The SDR's would supplement gold in international reserves. Handled properly, the SDR's could prove extremely useful.

One of the sticky elements of the current problem is that some nations, most notably West Germany, Italy, and Japan, are running balance of payments surpluses. They are under little pressure to end such surpluses, nor would it be easy for them to do so. Meantime, new gold production is insufficient to meet the world demand for monetary uses, even if it all flowed into central banks. In fact, almost all of it is flowing into hoards, and there has been some decline in total gold holdings of central banks. With total world monetary reserves stagnant, surplus nations can add to reserves only at the expense

of deficit nations. This adds to problems of deficit nations, mainly the U.S. and the U.K. Issuance of the SDR's, which would add to world monetary reserves, would ease, though not eliminate, the problems of deficit nations. In my view the SDR's should be activated as soon as possible, and in amounts sufficient to support a reasonable growth in world monetary reserves.

Another set of proposals which deserve careful study would involve somewhat greater flexibility in the exchange rate structure. At present, exchange rates can vary only 1% from the official parity. This seems unduly restrictive. The neatest idea is what has been termed the "Crawling Peg", which I regard as bad terminology. I would call it the "Dynamic Peg". This is quite technical and I will not bore you with the details. But exchange rates would be allowed to move in a range of, say, 3% over a year. Any rate which stayed on the floor for the year would be reduced 3% for the ensuing year, and vice versa. This would provide many of the advantages of floating rates without creating uncertainty.

These changes in the world financial structure--the SDRs and possibly something like the Dynamic Peg--would improve the structure. I believe it is very important to work towards them as rapidly as possible. Yet they would not absolve nations in deficit from the responsibility for taking steps to end their deficits. In practical political terms it will be difficult to take any of these steps until the U.S. regains a surplus in its international payments.

The U.S. Balance of Payments

Indeed, the key to the viability of the world financial structure lies in the U.S. balance of payments. With confidence in the dollar, the general system can be sustained and improved. If confidence in the dollar were to erode, the system would be vulnerable to collapse, with possibly extremely serious consequences for the world economy.

Confidence in the dollar is high at the moment. The turmoil in Europe last year emphasized the basic strength of the dollar. Our action at mid-year to raise taxes and restrain expenditures reinforced faith in the dollar, as did estimates that the U.S. balance of payments showed a surplus for 1968.

But things are really not all that good. Last year's payments surplus was partly due to window-dressing in the form of the sale of special Treasury long-term securities to West Germany and Canada, and partly due to a huge inflow of investment into American common stocks. These are temporary, rather than permanent, factors. The basic trade surplus was less than a billion dollars, including what we gave away. Figured properly, our basic balance of payments deficit last year was probably not far from \$3 billion, not much improved from the \$3.6 billion in 1967, and well above the deficits in 1965 and 1966. Moreover, we still have strict controls over foreign investment.

Inflation was a major factor. This shows up in the surge in imports. In earlier years, imports had risen reasonably in line with the growth in the economy. Yet from the third quarter of 1967 to the third quarter of last year they soared from a rate of \$26 billion to \$34 billion, an increase of more than 30%. Special factors such as the copper strike and the threatened steel strike played a part. But the major influence was the inflationary rise in domestic demand which pulled in imports of all sorts of goods.

The tried and true method for checking domestic inflation and improving a nation's balance of payments is to apply policies of fiscal and monetary restraint. This is now being done--about three years too late. We have already moved from an enormous deficit in the federal budget in fiscal 1968 to balance or a small surplus for the current fiscal year. This is one of the biggest and quickest shifts in fiscal policy on record.

Attempts to apply restrictive monetary policies were frustrated last year, largely because of the problem of accomodating huge Treasury borrowings. It is becomming increasingly difficult to determine the degree of restriction in monetary policy, or at least to get the experts to agree. But interest rates rose to historic highs last year, a fact which must have exercised some restraint. And it is now clear that the money supply, however defined, is declining. There is no question but that restrictive monetary policies are now beginning to bite hard.

"Over-Kill" Again?

Much concern was expressed in the public prints last summer that the package of tax increases and restraint on spending would lead to economic "Over-Kill" in that it might push the nation into recession. With the highly useful benefit of hindsight, it is clear that most observers underestimated the basic strength and momentum of inflation. Talk of Over-Kill evaporated rapidly only to be replaced by discussion of the impotency of fiscal and monetary policy.

Both appraisals were wrong. It was a mistake to assume that these policies would take hold immediately. And I believe it will turn out to be an equal mistake to assume that they are ineffective.

The fiscal and monetary policies now operating were designed to produce a gradual slowing in the rate of economic advance, and in the rate of inflation, without pushing the economy into a recession. My own view is that the odds favor the success of these policies. In other words, we will succeed in getting inflation under control in the course of the next year or so.

However, I should warn you that this is a delicate and risky operation. There is some chance that in the process we shall blunder into recession. However, there are few basic imbalances in the economy other than inflation, so any such recession should be milk and brief.

The point is that the United States is now pursuing policies which should lead to a basic improvement in the balance of payments. Such policies should hold down demands for imports while maintaining the competitive position of exports. There remains the question as to whether we can generate a large enough surplus on trade account to finance everything we would like to do around the world in terms of private investment and government projects. In these terms, much depends on Vietnam. A settlement there, along with no new outbreaks elsewhere, might make it possible to begin to dismantle the controls over foreign investment and lending.

The uncertainties surrounding the U.S. balance of payments outlook are so great as to preclude any hard and fast predictions. Yet, by the time-honored process of feeling one's thumb, I have the impression that we are moving in the right direction now. If we persevere, we may in a few years confront the problems of dealing with a U.S. balance of payments surplus, problems which may prove just as perplexing as dealing with a deficit.

Prospects for Europe

I have devoted the great bulk of this talk about prospects for the world economy to a discussion of prospects for the U.S. economy. I do not apologize, nor do I think I have poached unduly on Dr. Kendrick's domain. The U.S. is so important in the world economy that what happens here is of major importance to other nations.

Nonetheless, other nations will react to changes in the U.S. in differing fashion as dictated by their own internal situations. It may well be one of the salient features of the postwar world that the economies of major nations have not moved up and down in the same pattern. The fact that some nations have been booming while others have been in a phase of adjustment has probably contributed to overall stability.

Such a diverse pattern promises to be the pattern in Europe this year. For Western Europe as a whole, most estimates look to a growth rate in real terms of about 5%, or a little less than last year. Nonetheless, the picture is mixed, and there are some possible problems in Britain and France.

The British are still struggling to regain a surplus in international payments to restore viable domestic prosperity and repay the heavy borrowings from abroad used to defend the pound in recent years. Efforts to date, including the devaluation in late 1967, have been disappointing. A major reason has been continuing inflation which has kept import demand high. New measures to restrain consumer demand are likely, but there are problems in keeping wage increases in line with productivity. Real economic growth will probably not exceed 3%.

The pound sterling has been under pressure in exchange markets. Any new crisis in world financial markets would be likely to accentuate pressures on sterling. However, short of major changes in other currency parities, a further devaluation of sterling seems unlikely. The fact that the 1967 devaluation did not work as planned argues against another such move. And the measures of restraint should strengthen the pound as the year progresses. If another crisis should develop, the odds are that the British would turn to further controls and restrictions. This is one of the big dangers in the current situation--one of the world's great trading nations could be forced to invoke stringent controls over imports.

France is beset by both social and economic problems. Little has been done to remove the basic conditions which led to last year's strikes by workers and students. Wages are expected to increase 10% this year, posing severe problems of containing inflation and balancing international payments. There is room for some expansion in real production, which might rise 5% this year as against 3 $\frac{1}{2}\%$ in 1968. But it will not be easy in economic or social terms to defend the present parity of the franc. This is not to say it will be impossible--any nation can, by sufficiently stern domestic measures, maintain

the parity of its currency. If a devaluation were to come--and I am not predicting that it will--the chances are that it could be accommodated within the existing world financial structure.

West Germany and Italy are in a phase of strong economic expansion which promises to carry through this year. Both should achieve a rate of real economic growth this year in excess of 5%. Longer-term prospects for Italy are beclouded by social and political unrest and by lagging private investment.

In face of predictions of economic adjustment last year, Japan turned in another record of 10% to 11% real growth. The balance of payments surplus exceeded \$1 billion. Prospects favor another year of good growth this year. However, the slowdown in the U.S. economy and the possibility of "voluntary" restraints on exports of textiles, steel and TV to the U.S. (30% of Japan's exports) raises some questions about the longer-term. So does the continuing increase in domestic wages and prices which are bound over time to reduce Japan's competitive edge in world markets for many industrial products.

Trends in Canada obviously reflect those in the U.S. The Canadian Government is moving to policies of restraint, which imply some slowing in the rate of growth. It may be somewhat less marked than in the U.S. But there is likely to be some slowing in Canadian imports and a decline in the trade surplus from last year's large $\$1\frac{1}{4}$ billion. However, Canada's balance of payments position should remain comfortable.

Prospects for the rest of the world, consisting mainly of the less developed areas, appear to be as favorable for this year as last year's outcome. This is a large, and not very useful generalization. But, with the number of nations involved, it would obviously require another speech to deal with them in detail. If you have specific questions about particular countries, I shall be glad to try to answer them in the discussion period. I warn you that I can exhaust my knowledge in a very brief period.

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research ServiceOpening Remarks by M. L. Upchurch, Administrator
at the National Agricultural Outlook Conference
Washington, D.C., Monday, February 17, 1969

Those of you who are regular participants in past Outlook Conferences will notice some departure in this program from the traditional format. These departures warrant some explanation.

Among the changes is the fact that you are here in February instead of November. The change in date stems from other changes, so let me comment on them first.

American agriculture is becoming increasingly commercialized. Farmers always have wanted to make money, but now it takes increasing money to farm. The farm supply business; farming itself; and the businesses that assemble, process, and distribute farm products increasingly look like an industrial complex--albeit with unique features. Thus, they affect and are affected by the state of the national economy and national economic policies and programs. National policies regarding growth in GNP, taxation, wages, inflation, interest rates, and foreign trade--to name a few--are often as important to the outlook for farmers and managers of farm-related businesses as the supply of soybeans or price supports on peanuts.

In addition to commercial agriculture, the outlook for the many rural people who are not directly connected with farming is affected by general economic policies and programs relatively more than production and price prospects for farm products.

In recognition of the changing needs for outlook information or of the needs for different kinds of outlook information, we are devoting relatively more time this year than ever before to selected aspects of the national economy. We feel that by doing this we can increase the usefulness of this Conference, especially for Extension economists who handle outlook programs in their home States. We feel that this emphasis better complements their own efforts to conduct an effective outlook program at home.

If we are to give greater emphasis to national economic issues in our Outlook Conference, a change from our traditional November date is logical. Much data and much thinking on the state of and prospects for our economy

become available and can be made public after January each year. The State of the Union message, the annual report of the Council of Economic Advisers, the Federal Budget, and other important documents are available after January. These are vital in any meaningful discussions of the economic outlook. Thus we chose the February date for our Outlook Conference.

We gained some advantage and made some sacrifice in shifting from November to February for our Outlook Conference. We are fully aware that this change reduces the timeliness and usefulness of the Outlook Conference for some Extension economists and for some farmers. But what time would serve the greatest number best? Cotton producers in Mississippi, corn producers in Iowa, potato producers in Idaho need help with outlook information at different times in the year. Cattle feeders and poultry producers need help with outlook information at all times in the year. So we gave up our search for the best time for a National Outlook Conference as judged by the needs of farm producers.

Another factor was involved in our decision to shift emphasis in the National Outlook Conference. When these conferences were started more than forty years ago, few States had trained Extension economists to give professional competence to a program of outlook information. Now most State Extension Services have people who bring a high degree of professional skill to this work. They have more and better information available to them. They can develop, adapt, and disseminate outlook information specifically for the needs of their farmers and agricultural businesses with great skill. Our Outlook Conference, at the national level, should strive to support and supplement their work--not to substitute for it.

With an increasingly commercialized agriculture, the needs for outlook information on commodities become highly specific for specialized producers. The timing and content of such information must be tailored to their needs if it is to be most useful. Thus I urge strengthening outlook information programs within each State whenever possible.

I urge also better development and wider use of regional outlook conferences. In subject matter and timing, these can be fitted better to the needs of Extension economists and the agricultural industry of a region than we can possibly achieve in a single annual National Agricultural Outlook Conference. To further this view I have pledged the Economic Research Service to help in whatever way we can in conducting regional outlook conferences.

Our firm desire is to make the National Outlook Conference as useful as possible to Extension economists and to all who choose to join us in these discussions. I welcome suggestions of ways to improve it.

UNITED STATES DEPARTMENT OF AGRICULTURE
Foreign Agricultural Service

AGRICULTURAL TRADE PROSPECTS FOR 1969

Talk by Raymond A. Ioanes
Administrator, Foreign Agricultural Service
at the 46th National Agricultural Outlook Conference
Washington, D. C., 1.15 P.M., Monday, February 17, 1969

Our agricultural exports, considering all the problems, will hold up fairly well.

In this 1968-69 year, farm product shipments should be around \$6.0 billion--a little under last year's total of \$6.3 billion, but substantially below the high mark of \$6.8 billion that we set in fiscal year 1967. We look for dollar sales, including barter, to approach \$5.0 billion--somewhat under last year's level.

While exports of \$6.0 billion are good, we'd all like to see them regain the momentum they had a few years ago. And they can pick up momentum again if some major importing areas of the world finally decide that they want to trade--that they are ready to adjust some of their domestic farm policies in the interest of enlarged commerce. The way it is, domestic agricultural policies of many major importing countries are offsetting some basically favorable economic factors and adding to the competitive forces we already face.

Let's look at some of the pluses and minuses in the present situation.

On the credit side is the continued economic growth taking place around the world. This growth is providing the income improvement that is enabling the people of Europe, Japan, and many other areas to enjoy increasingly higher standards of living. That income base is essential to all our hopes of expanding farm product shipments.

Also put down as a credit the extensive agricultural market development work the United States is carrying on in some 70 foreign countries. This work, which involves almost every major farm product, is helping us capitalize on the generally favorable economic climate that exists in most foreign markets these days.

But there's the other side of the ledger. There we see two major items--increasing protectionism and increasing competition. These two factors, each of which affects our exports adversely, are partially inter-related.

Agricultural protectionism hits our exports in several ways. Trade walls hamper our exports to the protecting countries, of course. And high supported prices behind protecting trade walls reduce consumer demand. Protectionism also gives us increased competition in "third" countries. This comes about because protected high prices frequently stimulate excess production, which the protecting countries try to export, through use of subsidies, to countries that have been traditional U. S. markets.

Competition is strong enough the way it is. In recent years we have seen sharply increasing competition in the case of wheat, feed grains, oil-seeds, cotton, tobacco, citrus fruit, canned fruit, poultry, lard, and many other products.

Weather, which can cause as much as a 25 percent variation in crop yields, adds to our competition problems in some years. We had a good example of that in 1968. Weather contributed much to large harvests of wheat in importing countries as well as the exporting countries that vie with us for markets. But weather is a two-edged sword. Drought, floods, freezes, and the like can and will reduce our competition in some seasons.

Agricultural technology, which is improving crop yields almost everywhere, also has its effects on international trade. Crop yields are rising in the developing countries, notably in India, Pakistan, and the Philippines, as well as in such industrialized areas as Western Europe, Canada, and Australia. You have heard about the new strains of wheat and rice, which have been adding to world food supplies. But high-yielding seed is only part of the overall technology story. There has been a great expansion in use of fertilizer, pesticides, machinery. There has been improvement in irrigation, storage, and transportation. There have been gains in other directions, such as establishment of extension services and expanded production credit. The improved crop yields that have resulted mean that the countries which normally import from us have less dependence on U. S. supplies--and that the major exporting countries have an enhanced ability to compete with us for markets.

Then there are the special problems that arise.

The value and volume of U. S. agricultural exports in this current year have been affected by the dock strike that began December 20. Some foreign buyers stocked up before the strike began, which reduces the losses to some extent. But as the work stoppage held on, many customers have turned to other sources of supply. The best we can hope for in such cases is that we don't lose some of these customers permanently.

The problem that led to Japan's withdrawal from the U. S. wheat market for several weeks was unprecedented. There were no guidelines for coping with such an unusual situation; yet, it had to be handled. Eventually a solution was found. Although the episode resulted in the loss of some wheat exports, Japan is back in the U. S. market now--and we can all be glad about that.

I want to focus this afternoon on one of our longer range trade problems--protectionism. But first I'd like to report briefly on the 1968-69 export outlook for the major commodities.

Commodity Export Outlook

Wheat: Exports are expected to be somewhere between 600 million and 625 million bushels--a sharp drop from the 761 million bushels we shipped a year earlier.

Although wheat exports have been hurt some by the dock strike and the temporary withdrawal of Japan from the U. S. market, points I mentioned a moment ago, the big problem in 1968-69 has been simply one of too much wheat in the world. The U. S. and Australian harvests were records, and Canada's crop was big. Altogether, supplies of the four major exporting countries are larger than at any other time in this decade. The Soviet Union reportedly harvested its next-to-largest crop. Production in many importing areas--Western Europe, Africa, the Near East, and South Asia--was above average. Very large food crops were harvested in India and Pakistan. Because their imports have declined sharply, proportionally less wheat will move under food aid programs, and more will be shipped commercially, than last year.

Rice: We expect rice exports this year to be at least as large as last year's 1.9 million metric tons. The dock strike, however, has made export forecasting this year more difficult than usual. Forecasting is complicated further by the large supplies of rice available to the world market. The United States harvested a record crop and world production was close to a record.

Feedgrains: Total U. S. feedgrain exports in 1968-69 are expected to be between 19 and 20 million metric tons--a little less than the 20.2 million shipped a year earlier. Were it not for the dock strike, U. S. shipments this year would have had excellent prospects of exceeding last year's total.

Soybeans and products: Prior to the dock strike, shipments of soybeans were expected to increase by 15 million bushels, meal by 300,000 short tons, and oil by about 100 million pounds. But the long duration of the strike may well mean that anticipated totals for soybeans and meal will not be realized.

Cotton: Exports of U. S. cotton in the 1969 marketing year are estimated at around 3.0 million bales--a sharp decline from the 4.2 million bales exported in 1968 and 4.7 in 1967. The expected drop in exports is attributed to five conditions: (1) Exportable supplies in foreign producing countries are at record levels, (2) foreign demand is down, (3) the range of qualities in the U. S. supply is narrower than usual, (4) U. S. prices, though much closer to prices for comparable foreign cotton than some months ago, are not yet fully competitive for certain qualities, and (5) the dock strike.

Tobacco: Shipments of tobacco this year are expected to remain near the current level of 560 million pounds (export weight). That's well above the 1960-64 average of 497 million pounds. Factors responsible for the relatively high shipments are the U. N. trade sanctions against Rhodesian tobacco and the improved quality of recent crops.

Poultry products: U. S. poultry exports this year are holding up surprisingly well in view of the strong protection given this product and the subsidized competition the United States faces in many traditional markets. Exports of certain U. S. poultry items, such as turkey and chicken parts and specialty items, may be equal to or exceed the levels of fiscal year 1968.

Fruits and Vegetables: We now expect a slight drop in exports of fresh and processed fruits from last year's value of \$287 million. Supplies of some fruits--particularly apples and pears--will be less than anticipated earlier. In the case of canned fruits, competition has increased considerably in foreign markets. Exports of fresh and processed vegetables are expected to approximate last year's performance of \$127 million.

Livestock and products: The outlook for 1969 exports of beef breeding cattle is encouraging. U. S. animal by-products, however, face strong competition, especially in European markets. Lard exports to the United Kingdom have been hit hard by the European Community's export subsidies, but the U. S. export payment program initiated in January should help second-half shipments. Tallow sales are expected to hold up well, and some gains are looked for in exports of variety meats and cattle hides.

Agricultural Protectionism

Agricultural protectionism, which seems to come to a focus on the European Community, is continuing to affect the longer range outlook for farm product exports. It seems to me that the Community's protectionist actions have encouraged similar responses elsewhere. I'm thinking of the grain levies in the United Kingdom, and the slowness of some countries, notably Japan, in easing import quotas. If we can judge by the number of import quota bills introduced in the Congress, the protectionist virus is spreading even to the United States.

But it's the Community's protectionism that I want to emphasize today--and I do that for two reasons: First, the Community is our largest single market for farm products. In fiscal year 1968, we sold that area \$1.4 billion worth of food and fiber--28 percent of our total commercial sales to all destinations. Second, some of our most serious trade problems trace directly or indirectly to the Community's variable import system.

With that preamble, let me review the four phases of our relationships with the Community:

Phase 1 was from 1958 to 1962 when the Community was starting to integrate its industry but still had little or no integration of agriculture. That could also be called the bonus phase for American farmers. The European economy was booming, spurred on by the start of industrial integration. Demand for agricultural products soared. And because internal suppliers of agricultural commodities had no preferential position in the market, our exports to the Community rose sharply.

But we could see the handwriting on the wall. In November 1961 we said in a speech before the Florida Farm Bureau:

"Up to now, the Common Market has been preoccupied with devising ways of administering policy, rather than agreeing on a common level of protection. However, protection proposals have emerged. And they are disturbing, to say the least. Under them, a number of important U. S. farm products would be subject to protective devices of one type or another. For example, variable import levies would be used to make up the difference between a fixed target price for domestic production and the world market price for wheat, rice, feed grains, sugar, and certain poultry livestock and dairy products. Another way to describe the variable import levy might be to call it an "equalization fee." Whatever you call it, let me be very blunt about its effect: It will restrict U. S. agricultural exports to the Common Market area--the largest single dollar market for U. S. farm products."

Our misgivings were realized in Phase 2 which I think of as the import substitution phase. The Community started to integrate the market for certain agricultural commodities, such as poultry. They did this behind high variable levy walls of protection. As their production expanded, imports into the Community were reduced. This led to the so-called chicken war. When that was over, the Contracting Parties of the General Agreements on Tariff and Trade agreed that the United States could adjust its tariffs upward to compensate for the trade loss of \$26 million.

Phase 3 I would call the export disposal phase. The Community is still in the middle of this one.

The Community and Denmark used export subsidies to penetrate the poultry market we had developed in Switzerland. As a result, our shipments of frozen chicken meat, which had amounted to about 10 million pounds in 1963, dropped to about 700 thousand pounds in 1967. We patiently and repeatedly sought under the GATT a solution to the problem of subsidies. The discussions weren't fruitful. So the Department of Agriculture in April 1968 resumed its subsidies on poultry exports to Switzerland. The U. S. subsidies are having a salutary effect. U. S. exports of frozen chickens to Switzerland totaled over 6 million pounds in 1968. We hope that the message on this is clear to the countries using subsidies.

Again using subsidies, the Community moved into the United Kingdom with its surplus lard. The United Kingdom, of course, is a traditional U. S. market for lard--and our largest. Accordingly, we took action to maintain our fair share of that market. In January of this year, we initiated a payment program to counter the Community's subsidies.

We are prepared to end our subsidies the minute the Community ends its subsidies.

We've even had to protect our home market. Last year, for example, we applied countervailing duties to subsidized Italian and French tomato products coming into the United States. Subsequently the French eliminated their subsidy, so now the added duty no longer applies to French tomato products. We applied strengthened Section 22 import controls to dairy products which were being shipped to this country from Europe at cut-rate prices.

Phase 3 leads right to Phase 4, which is the pocketbook phase. It's a phase that's cause for deepest concern in Brussels and capitals of the member countries. High protected prices are stimulating excess production to an extent never dreamed of when the common agricultural policy was being put together.

The cost of price support and subsidies in the Community are now so large that national legislatures of the member countries are being called on to work out ways of funding the expenditures. These costs have risen from \$500 million in 1960 to \$1.5 billion in 1967 to \$2.0 billion in 1968-69. The national legislatures are reluctant to fund these outlays, because they see no end to the money drain under the present system.

The piling up of surpluses, plus the huge outlays required for the Community's overall agricultural program, make changes inevitable. And new proposals already have been put forward. But whatever form the changes finally take, the problem of protected high prices must be recognized.

Our agricultural trade problems with the Community trace almost completely to their system of high protected prices. And now we've gotten a new problem to solve--this one involving vegetable oils and meal.

A New Problem for Soybeans. Let me say by way of background that oilseeds and high protein meals now enter the Community duty-free and without restriction. This trade concession--and it's very valuable--is the principal bright spot in two major trade negotiations over the past 10 years. Under this concession we have built up a trade of nearly \$500 million annually. And it's an expanding trade.

However, the Community now has under active consideration a plan to place an internal tax of \$60 per metric ton on vegetable and marine oils, and \$30 per ton on meals. Community officials argue that they want to raise the price of meal--with the tax--to discourage milk production, and, incidentally to encourage use of their own grain. They say they want to raise the price of oil in order to dampen production of margarine and reduce its competition with butter. They don't say that the guaranteed price for their milk is too high; or that the price of their grain is too high. They say, in effect, that our soybean and soybean meal price is too low.

This is how the Community's system works: Beginning 2 years ago, the Community started to increase the internal price of corn in relation to other grains. This has stimulated output of Community corn, and has discouraged use of imported corn. Bear in mind also that the internal price of corn was sheltered from import competition by a variable levy, whereas other feeding materials were not so protected. These materials included such items as sugar beet pulp, dehydrated alfalfa, and soybean meal. Because these other materials were not protected, and were relatively low-priced, their use increased.

Look how distorted the situation has become: In this country, soybean meal in recent years has sold from 60 to 80 percent more per ton than corn. But because of too-high prices for corn in the Community, soybean meal is giving corn strong competition. On a per ton basis, soybean meal prices in the Community are about the same as corn, which stimulates use of soybean meal in feed rations. So the Community would complete the full circle by raising the price of meal with an internal tax. A better solution, of course, would be to reduce the price of corn.

The United States has taken a most vigorous stand against this proposal.

And well we might. A total of \$500 million in U. S. agricultural trade is at stake. Trade on that order is of enormous importance to our farmers, to the industries that support soybean production and exports, and to American workers.

We have consulted on this proposal with officials of the Community and with responsible officials of the member states. We have told them that such a tax would seriously affect U. S.-Community relations. We have warned them, furthermore, that if the tax should be adopted there will inevitably be a confrontation. In other words, we would act swiftly to restore the balance of trade advantage between us.

Confrontation is a strong word--but even more than soybeans is involved.

The Community is considering a proposal for a common agricultural policy for tobacco which includes market guarantees and price incentives for Community producers, export subsidies, and advance import deposit systems and provisions for the suspension of imports. If implemented, this proposal could adversely affect U. S. tobacco exports to the Community valued at \$149 million last year.

The Community is talking about a minimum import price system on fruit and vegetable products. It feels, apparently, that it does not get adequate protection from fixed tariffs bound in negotiations with the United States. Such a system would also hurt our exports.

Neither the United States nor its trading partners can afford the economic price the Community is asking that they pay to support its protectionist agricultural policy. The United States can produce such items as feedgrains, soybeans, poultry, and rice at a much lower cost than the Community. Our farmers have been persuaded that a market-oriented economy--one where farmers produce at world market prices--will bring rewards in the way of increased trade. If acceptance of that thesis does not bring the expected rewards, then there must be a confrontation--a redressing of the balance. Because the United States imports a relatively small volume of farm products from the Community, a redressing of the balance would fall in large part upon the Community's manufacturing industries.

Domestic Farm Programs and Export Policies

In conclusion, I'd like to make some general observations.

One part of trade is the exchange of things we can produce for those that we can't produce. But that's a rather narrow interpretation. We also trade on the basis of price. Farmers will buy barbed wire that comes from Essen, West Germany, if that wire is cheaper than the product that comes from Pittsburgh. They clearly see the advantages of buying the imported product. But those same farmers aren't so sure that U. S. users should be given a chance to buy foreign-produced malting barley when it can be

sold here at a lower price than the American product. Yet both instances illustrate the fact that the heart of real foreign trade is based on the competition among producers of like products.

What hinders that competition? We say that trade walls hinder it. Again, however, this is too strict an interpretation. The trade walls are a symptom of the trouble; they aren't the source of the trouble. Trade walls are erected to protect the prices that countries want their farmers to get for agricultural products. So the actual hindrance to trade lies in domestic agricultural policies of the trading countries.

More specifically, at the root of the problem are export subsidies and their counterparts in importing countries, variable levies and import quotas. If trading countries are to reduce and eventually to remove subsidies and trade barriers, they must recognize that programs for maintaining farm income must not interfere unduly with the market price structure. Unless they recognize this essential fact, they will be battling forever in the international trade arena.

Therefore, shouldn't the trading nations of the world--instead of negotiating only tariffs and non-tariff barriers--use domestic farm programs and the degree of protection they provide as the major basis for negotiation?

Perhaps the time is not yet right for such a negotiation. But that time is fast approaching. The United States has made progress in reconciling domestic farm programs and trade with respect to some major export commodities; the Europeans are taking a closer look at some of their own policies. If the right decisions are made, there will be improved prospects for an enlarged world trade in farm products--a trade in which the United States can share on an expanding basis.

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UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL DEVELOPMENTS IN OECD COUNTRIES
AND IMPLICATIONS FOR TRADE

Talk by A. Simantov

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Organisation for Economic Co-operation and Development, Paris
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1. Very often agriculture is considered to be an obstacle to international cooperation and economic integration. This belief results from the manifold interferences of Governments with production and especially with trade in farm products: the belief is further strengthened by the difficulties encountered in applying to agriculture the same approach and the same principles that are applicable to the other economic sectors. The special treatment of agriculture in the GATT, in the OEEC Code of Liberalisation and, more recently, in the European Economic Community, in the European Free Trade Area, and in the Kennedy Round, has given rise to increased and generalised concern. Nobody can dispute the fact that agriculture stands at the forefront of many international discussions at a time when everybody is conscious of the growing economic interdependence of the various countries. This growing interdependence is both cause and effect of the sustained and rapid growth of the national economies in the post-war period and especially since the mid '50s. Table 1 shows the economic performance of the OECD countries in recent years.

A. IN THIS GENERAL DEVELOPMENT WHAT HAS HAPPENED TO AGRICULTURE AND TO AGRICULTURAL TRADE?

2. Farm employment has declined between 1956 and 1966 in the OECD area by some 15 million people, i.e. by something close to the entire population of all the Scandinavian countries. This reduction, as shown in table 2, has accelerated in recent years in most countries, and is at present taking place at some 3 - 3.5%(1) compound per annum, i.e. at almost three times the rate at which

(1) Almost at 4% compound per annum if Turkey is excluded from the calculations

total population is increasing. There is no reason to believe that in the years to come this reduction will slow down. At least for the coming ten years it would be reasonable to expect that if our economies continue to grow at rates similar to those experienced in recent years, the other sectors of the economy will be capable of attracting and absorbing a large number of farm people. This combined with the disappearance from active life of many of those farmers who are now above 50 - 55 years of age should mean that farm employment in the OECD area will fall by 1980 to something like 30 million units, or some 9% of total employment. The decline will increasingly concern the farm operators themselves, as the reduction of the hired labour force and of the family labour has already gone a long way.

3. The number of holdings has been declining steadily since the early '50s. The decline has concerned primarily the small farms: those below 25 acres in most European countries and those below 50 acres in North America. Here again, as shown by table 3, there is an acceleration in recent years, and this is expected to increase further, both as a result of the fast reduction in the number of farm operators mentioned above and as a result of the official structural policies pursued in many European countries.

4. The reduction of farm employment has resulted in all countries in a spectacular increase in the amounts of capital, both fixed and operating, per unit of farm labour and to the extent that farm sizes have increased there has been an increase in capital per farm but in terms of capital and expenses per acre at constant prices the effect has not been very marked. In the United Kingdom, for example, the total agricultural hired labour force declined from 640,000 in 1959 to 488,000 in 1967 (i.e. by about 25%) but this labour force managed to cultivate a 4% increase in arable land with virtually no increase in the number of tractors and harvest 29% more cereals with an 11% increase in combine numbers. We expect such trends to continue, with an acknowledgement however that the amounts of capital will increase especially per farm and not necessarily for the agricultural sector as a whole.

5. Agricultural production has been increasing, both as a result of the technological revolution associated with the trends referred to above and of the price support policies pursued by almost every country. Because of the relatively high food consumption standards already reached in most OECD countries, increases in consumption have been insufficient to absorb all the increased output, with the consequential accumulation of surplus stocks and the depression of free market prices.

6. Farmers have shared in all countries in the increased well-being brought about by the fast rate of economic growth, but their income expectations tailored upon the situation of other socioeconomic groups have risen even faster than their incomes. There is a profound feeling of discontent in all developed countries: it is not due to poverty but to uncertainty about the future, as it is much easier to obtain an increase of farm incomes in a situation of pressure of demand than in a situation of pressure of supply.

And what about Agricultural Trade?

7. Between 1960 and 1967 this trade (in terms of the average of imports and exports at current prices) has increased for the OECD area as a whole by 6.5% per annum compound. This progression, while significant and to some people spectacular, falls however short of the progression registered by trade in other goods: in fact this is true for the OECD area as a whole and for any of its sub-areas, (cf. table 4). This slower growth of agricultural trade is widely considered to be the consequence of the large number of import restrictions of all kinds that exist in all countries, even if the granting of export subsidies for an increasing number of commodities and by an increasing number of countries tends to balance, at least in part, the effects of these import restrictions.

8. Trade within the OECD area as a whole and within reach of its sub-areas has grown at a substantially faster rate than global trade: this is true both as regards agriculture and the other commodities. This is another indication of the rapidly growing interdependence of the OECD Member countries' economies. The progression has been particularly rapid in the case of the European Economic Community, which is easy to understand (cf. table 4).

9. It is also worth noting that the differential in rates of growth of total trade and of agricultural trade have tended to decline, and in some cases considerably, in the course of the 1960's, especially as regards trade within each area (cf. table 5). This could be interpreted as a sign of the growing vitality of the agricultural sector, but some people would be inclined to attribute it, at least in part, to the government measures of one kind or of another.

10. Trade by individual countries or for individual commodities has of course developed at different pace. Tables 6 and 7 are illustrative in this respect. Moreover there have been important year-to-year variations.

11. As regards food imports Japan and most of the Mediterranean countries have shown the fastest increases on account, in particular, of their rapidly expanding per capita food consumption. At the other extreme one finds the

United Kingdom due in particular to the combination of an already high food consumption and a relatively slow population increase. Most other countries have experienced rates of change of the same order of magnitude: in European countries the leading force has been increases in per capita consumption while in North America the main force has come from population increases.

12. As regards food exports there seems to be no apparent rule making for the wide differences in performance. Countries with relatively large under-utilised potentials seem to have done better than some of the European traditional exporters such as Denmark, Ireland and the Netherlands.

13. All commodity groups have shown important increases, especially for commodities produced in the temperate zone. In the import side the most substantial increases, besides fish, are shown by those commodities which are directly or indirectly associated with the fast increase in meat requirements experienced in all countries. All kinds of feedingstuffs imports, either coarse grains or concentrates, have shown proportionate or absolute increases even greater than those observed for meat. On the other hand, the relatively slower imports of dairy products and of bread grains reflect the more or less generalised trend for production to expand faster than demand in OECD countries. On the export side, the developments are similar to those mentioned above for imports, the main exception being the rapid increases in exports of wheat. These increased exports go especially to non-OECD countries.

14. In many cases the situation has given rise to concern as the efficient producers have not always been allowed to take full advantage of their efforts. Traditional trade flows have undergone important changes and new trade flows have tended to develop under new sets of conditions where efficiency has not always been the main criterion.

B. WHAT ABOUT THE FUTURE?

15. The OECD has been concerned with this question for quite some time now. Our interest has focused both on the short term and on the longer term.

In the short term

16. As regards the short term our attention has gone primarily to such commodities as dairy products, meat, and fruit and vegetables. This is due to the fact that these commodities are not covered so far by any international

arrangements aiming, even indirectly, at a stabilisation of the market(1); moreover they are not the object of any major attempt at controlling production as is the case for cereals thanks to the U.S. policies.

17. All forecasts of production and demand have a common feature; production of each of the commodities studied for OECD countries taken as a whole is increasing steadily and the rate is now hardly influenced by temporary disturbances, whereas in many cases demand is rising at a slower rate. Analysis of the factors influencing production reveals that an important cause of the production increase lies in the permanent improvement of techniques but at the same time, it throws light on the part played, in a great number of cases, by the policy of supporting prices at relatively high levels; this policy being usually applied without discrimination to all producers regardless of quantities. The producers, who are then more anxious to produce than to sell, rely on the authorities to dispose of their increased production whatever the method used: import restrictions, export aids, consumer subsidies, denaturation and even destruction.

18. The most typical case and, no doubt, the most difficult to solve concerns dairy products. It appears that for the coming years, a considerable surplus of milk will occur unless corrective measures are applied very soon. Even if the increase in the volume of production, in the OECD countries taken as a whole, is rather small - an average of + 1% per annum since the beginning of the sixties - more important increases are being registered in Ireland, in Austria, in Norway, in Switzerland and above all within the E.E.C. Thus the production of the E.E.C. in particular has increased by + 3.5% per annum from 1965 to 1967 and this rate has probably been exceeded in 1968. Such a rise in production would not, in itself, be excessive: however, consumption is decreasing or stagnating except in Japan and in the Mediterranean countries. In addition to this phenomenon there has been a steady decline in the use of whole milk for feeding young animals and consequently an increase in the deliveries to dairies, hence the building-up of the well-known enormous stocks. As regards butter, the stocks of the OECD countries had reached already in September 1968 a tonnage close to that of the annual world trade.

(1) Exceptions to this general statement are: (a) the Gentleman's Agreement for Whole Milk Powder sponsored by the OECD, whereby major exporters agree to a minimum export price, and (b) the Bacon Export Arrangement between the U.K. and its foreign suppliers.

19. The comparison in table 8 of prospective supply and demand for 1970 shows a very unfavourable picture suggesting an aggravation of the imbalance and the building up of considerable surpluses. Compared with 1965 the exporting areas of the OECD may find their annual surpluses increase by more than 6 million tons of milk, while the importing areas might find an increase in their deficit not exceeding 2 million tons. The situation appears to be even worse when allowance is made for the likelihood of higher quantities becoming available for export from the other exporting countries of the world, e.g. Oceania and Eastern Europe, which direct most of their exports (8 million tons of milk equivalent in 1965) to the OECD countries.

20. Different problems are raised by beef production. Strong demand exists in this sector and should be maintained in the coming years provided consumer prices remain reasonable. The surveys undertaken show that in most countries production can be expected to grow until 1970 and beyond, sometimes at an appreciable rate, but this will not allow the OECD as a whole, nor any one of its three large geographical zones, to satisfy its needs. The 1970 prospects worked out in 1967 showed an overall deficit of 1,400,000 tons for the OECD area. Latest estimates (November 1968), taking into account that production has been increasing more rapidly than expected, while the expansion of demand has been slowing down, now suggest that this deficit might not exceed 1,000,000 tons of which 300,000 tons for the United States and 500,000-600,000 tons for the European Economic Community (cf. table 9). The fact remains that during the coming years, OECD Member countries should have scope both for allowing production to grow on an economic basis and to pursue a relatively flexible import policy. Yet in spite of this general tendency towards shortages of supply, the European exporters are sometimes faced with sale difficulties. Further, the current tendency is not to relax protection at the frontier. It may be asked whether certain policies of encouraging production by increasing prices and reinforcing protection may not result in curbing the growing demand for beef, already restrained by the much lower prices of pigmeat and poultry.

21. As regards fruit and vegetables, the production developments in Europe which can be anticipated are such that the problems already encountered regarding the disposal of these commodities will become even worse in the years to come (cf. table 10). These increases come mainly from Southern Europe, but at the same time, modern commercial orchards have been planted in countries traditionally known as importers. Thus the volume of production in these countries will be appreciably higher and, furthermore, the varieties and qualities involved will be more suitable to consumption needs. Consumption in all countries can be expected to increase, but will remain appreciably below the level of production.

22. These are the sectors where detailed surveys have been made so far, but there are others where similar causes may, sooner or later, have the same effects. In particular, there is already a considerable excess of supplies of sugar over demand in certain countries, and the world "free" market has been suffering for many years from very low prices. The cereal sector has again been in surplus for the last two years in spite of the policy of limiting the grain acreage in the U.S.A. This surplus production is likely to increase even more if cereal needs for food aid should decrease earlier than has so far been expected and if, as can already be noted, demand for animal feeding is not unlimited either.

23. The short term outlook is therefore not bright, as Governments seem to have limited possibilities of action with immediate effect: they may be able, as we hope, to prevent the situation from becoming worse than the one we have forecasted, but it would be utopian to believe that the butter surpluses are going to disappear or that the production of fruit trees already planted will not be realised.

In the longer term

24. And in the longer term, does the situation appear more hopeful? The OECD Secretariat had been asked to look at the situation which would prevail in 1975 and 1985, assuming that present policies would remain broadly unchanged and that prices and costs would continue to develop in the same way as in recent years.

25. In setting out to make this study(1), a major aim was to discover whether the OECD area and Oceania were likely in the years ahead to have substantial quantities of food in excess of their own requirements, which could be available for export to other regions, in particular to the less-developed countries of the world. To this question the study returns an unequivocal answer: the OECD area and Oceania have the potential to expand food production well beyond their own needs. Moreover, this extra production could be obtained without any special stimulus to output, simply on the basis of present policies.

26. This potential would take the form primarily of net export availabilities of grain. Table 11 shows the results of the projections. It appears that the net export availability of the OECD area plus Oceania would rise from

(1) The description of the results of this study (paragraphs 25 to 37 of this paper) is taken largely from an article "Agricultural Projections for 1975 and 1985" by Mr. Tracy, Head of the Agricultural Policies Division in the OECD Agricultural Directorate, which appeared in the February 1969 issue of the OECD Observer.

20 million tons in 1961-63 (6% of production) to 90 million tons in 1975 (19% of production) and 121 million tons in 1985 (21% of production).

27. By far the larger part of these net exports would come from the U.S. and Canada; Australia too would increase its export. At the same time, the traditional importing countries in Europe would become more self-sufficient: net imports by E.E.C. and the other countries of North-Western Europe (the United Kingdom being particularly important in the latter group) would fall off. The results for the Southern European countries are largely influenced by increased export availabilities from Yugoslavia. The only country likely to substantially increase its imports of grain is Japan: this is due to the expected rise in per capita consumption levels of livestock products, from their present low levels, with a big consequent increase in feed grain requirements, and also to the expected increase in wheat consumption, partly at the expense of rice.

28. Out of the total net export availability of 90 million tons in 1975, 48 million would consist of bread grains (wheat and rye), 42 million of feed grains (maize, barley, oats, etc.). There are however possibilities for substitution between bread grains and feed grains in both production and utilisation.

29. It should be recalled that these results are obtained on the assumption that the U.S. continues to hold a significant part of its cropland out of production. In other words the potential export availability could be even higher than that projected.

30. The study has given some interesting results for dairy products, which however need to be interpreted with care (Table 12). In recent years, North America, the E.E.C. region and Oceania have exported dairy products in quantities exceeding the amounts imported by the other OECD countries, in terms of both butterfat and solids-non-fats(1). This net export is projected to grow up to 1975, though it might fall back again by 1985. Looking more closely at the figures, it appears that Australia and New Zealand would steadily increase their exports and would thus be the main source of the additional export quantities. The E.E.C. countries too would increase their net exports up to 1975; the subsequent reduction is mainly due to the possible effects of changes in farm

(1) The results for dairy products have been expressed in terms of the two components of milk, butterfat and solids-non-fat. Butterfat alone is approximately equivalent to butter, s.n.f. alone to skim milk powder; but the two components can be combined in different ways to form other dairy products, e.g. cheese and whole milk powder.

structures, which may lead to a fall in the number of cows: this possibility has been allowed for in France in particular, but it should be emphasised that this development is by no means certain. In North America the number of cows is already falling quite rapidly, and although this trend is not expected to continue indefinitely, the net export of dairy products is projected to fall off and eventually to turn into a net import provided the U.S. policies would allow for such a development. The countries of North-Western Europe other than the E.E.C. at present have a net import of dairy products in terms of butterfat but a net export in terms of solids-non-fat: this is due to the large imports of butter by the U.K. from Oceania. The net imports in terms of butterfat would remain about constant, while the net exports in terms of solids-non-fat (mainly coming from Ireland and Denmark) would increase. (It should be observed that the projections do not allow for Denmark to utilise her full potential in the dairy sector). Net imports by Southern Europe and by Japan would increase to some extent, the reason being essentially the same in both cases: per capita consumption levels are currently low and are likely to rise.

31. These net export availabilities by the whole group of countries do not appear unduly large in relation to production: in 1975, 5% of total milk production in terms of butterfat, 6% in terms of solids-non-fat. It seems likely that the solids-non-fat element could be disposed of without great difficulty, mainly in the form of skim milk powder, for which there is a large potential demand in the protein-deficient less-developed countries. But the butterfat element raises greater problems: in the form of butter, there is little demand for it outside the OECD region, and even combined with part of the solids-non-fat element to form cheese or whole milk powder, there are practical difficulties in disposal. The E.E.C. and Oceania thus seem likely to encounter growing problems, for the annual accumulation of some hundred thousand tons of butter surpluses would be financially disastrous.

32. For beef and veal, the projections show a rising net import requirement by the OECD area (cf. table 13). The consumption of beef is particularly responsive to income growth, so that substantial increases in demand have been projected in spite of the assumption that the relative price of beef will continue to rise. On the other hand, the growth of beef production in the European countries and in Japan is hampered by existing farm structures: on small farms, specialised cattle-raising is generally unprofitable in relation to milk production. Australia and New Zealand can be expected to increase their exports, but not to the extent sufficient to meet the import demand of the OECD region. The remaining demand may be met to some extent by South America, but it is most unlikely to be met in full. It is clear therefore that this projected imbalance

is unrealistic. Probably the relative price of beef will rise even more than has been assumed, thus checking consumption growth and - to some extent - stimulating production; probably too poultry-meat and pigmeat will be substituted for beef. A calculation has been made of the extra amounts of feed grains that might be absorbed in this extra production of meat: the result would be to reduce the net export availability of grains of 90 million tons in 1975 to about 86 million tons.

What are the prospects for trade with other regions?

33. To what extent could the projected export availabilities of grain and dairy produce be absorbed by exports to other regions? The OECD projections study has not dealt with trends in other parts of the world, as these are being studied by the F.A.O. These trends are not easy to assess at the present time. Nevertheless, some rough indications can be given.

34. It seems most unlikely that anything like the 90 million tons of cereals projected as net exports for 1975 could be taken up by the other regions. Preliminary calculations by F.A.O., made two or three years ago, estimated the net import requirements of these other regions as not exceeding 27 million tons. Since these calculations were made, successes with new varieties of wheat and rice have considerably increased optimism as to the prospects of self-sufficiency in major less-developed countries such as India and Pakistan. Growing consumption of livestock products in the present low-income countries may lead to a potential increased demand for feed grains, but it is unlikely that these countries will wish to use a large part of their scarce foreign exchange to purchase grains from abroad.

35. The foreign exchange problem could in principle be overcome by increased food aid programmes, financed by the donor countries. While some such expansion is not to be excluded, there are a number of reasons which make it unlikely that food aid programmes can be very substantially increased. In the first place, there are practical limitations in terms of transport facilities, especially as regards handling at the ports and internal transport in the receiving countries. Secondly, there are the risks of discouraging agricultural expansion in the recipient country. Thirdly, there are limitations on the amount of finance that is likely to be forthcoming for this purpose. In recent years, the total value of food aid has been approximately \$1 1/2 billion (mainly by the U.S., and consisting largely of grains). Calculations made in the projections report show that the value of net exports of grains by the OECD area (excluding Oceania) would rise, if the projections were realised, from \$0.6 billion in 1961-63 to \$4.3 billion in 1975 and \$6.1 billion in 1985 (at 1961-63 unit trade values).

Total official aid by the OECD countries in recent years (including food aid) has amounted to between \$6 billion and \$7 billion. Unless total aid should rise very considerably, the financing of a significant part of the additional grain exports would thus be likely to absorb a substantially increased share of total aid.

36. The future trade position of the USSR, other Eastern European countries and China is difficult to foresee precisely. A few years ago the USSR, following bad harvests, had to import grains; China too has resorted to large grain imports. But the USSR, in the long term, is more likely to be a grain exporter than an importer, and should at least be able to satisfy the requirements of the other Eastern European countries; already signs of a return to a net export position are appearing. China is more likely to raise its imports; but vigorous steps have been taken to control population growth, and it is unlikely that imports will be allowed to grow beyond a certain point.

37. As regards dairy products, it has already been pointed out above that while the non-fat element may meet a growing need in less-developed countries, the butterfat element may be more difficult to dispose of: it is less urgently required in the less-developed countries, and moreover is much more difficult and costly to transport and store. As for the Eastern European countries, they are more likely to be competitors than customers on the dairy products market: this is already beginning to be the situation today.

38. It is obvious that these projections will not materialise. It is beyond any man's mind that around 1975, some tens of millions of tons of grain or several hundred thousands tons of butter, are going to be added every year to existing stocks. These projections show however the urgency for changing present policies and give an indication of the size of the problem which governments would be facing in 10 years time if they did not act immediately to change their policies.

C. A CHANGE IN POLICIES IS NEEDED

39. In addition to these alarming imbalances in production and consumption which cannot be a pleasant expectation for any trading nation, and the more so for an exporting nation, there are various reasons which make us believe that a change in policies is bound to occur.

40. How long will it be possible to consider the international market as the outlet for any unwanted production, with the consequential increasing discrepancy between domestic and international prices? For example grain and

butter prices vary as between countries from 1 to 3, sugar prices vary from 1 to 5. Domestic and international prices may vary between 1 and 8 as is the case at present with butter. Either the loss is suffered by the producers or by the Treasury in the exporting countries, the limit will soon be reached. Export subsidies for grains and animal products alone were running in 1965 - the last year for which the calculations were made - at nearly \$1 billion a year. This amount which does not include indirect payments is at present much bigger. The E.E.C. alone had forecasted for 1968/69 a bill of \$1 billion for the support of the dairy products market, of which about a third for export "restitutions". With the expected increase in production, any national treasury would soon meet with unsurmountable difficulties.

41. But the claims on national treasuries go beyond the granting of export subsidies. There are subsidies of all kinds: price subsidies, income subsidies, input subsidies, land reclamation and structural improvements, social benefits, training courses, rural areas development programmes, and many others. How long will it be possible to keep increasing these appropriations, especially those devoted to price and income support and to market equilibrium? Tables 14 and 15 speak unfortunately for themselves. Government expenditures for agriculture are increasing almost in every country, although agriculture is a constantly declining part of the national product; these expenditures are representing in many cases a constantly bigger proportion of the value of agriculture's output; and in terms of government expenditure per active person in agriculture the progression is very pronounced. Countries are tending in recent years towards levels of government expenditure per active person in agriculture which are rather close to each other; similar patterns are also observed in price and income support expenditures as a proportion of the value of output.

42. It is very hazardous to forecast what government expenditures for agriculture are likely to be in the next 5 to 10 years if present policies and programmes continue broadly unchanged. For example present cost of support to agriculture in the E.E.C. is running at about \$4 billion a year: experts say that in ten years time it might reach some \$10 to 12 billion if production continues to increase at the present rate and if Governments are to guarantee its disposal at the present price level. Similar progressions in costs might be expected in other countries too, although direct government expenditures are by no means the only protection granted to agriculture.

43. But our preoccupations are not exclusively financial. We are pre-occupied with the prospects for international trade in agriculture. We believe that agriculture lends itself to trade more than most other economic activities. As long as climate, soil and structural conditions play an important role in

determining the lines of farm production and the cost structure, it would seem normal that big differences should occur as between regions and countries and it would seem even more normal that trade could result in mutual advantages for the various partners. In fact the differences in cost structures and levels would militate in favour of growing trade in all commodities. Why should the European countries not import more cereals from North America and Australia, and North America not import more dairy products from New Zealand and some European countries?

44. But we have to admit that the maintenance and the strengthening of a wide range of obstacles to trade suggests that agriculture's potential contribution in the field of international economic cooperation is even greater than it has actually been allowed to be and that if suitable policies were followed by all countries concerned - whether exporters or importers - to tackle the social problems of agriculture this unused capacity could in the longer run be utilised more fully to everybody's advantage. The problem is not only one of increasing the volume of trade but also one of improving the conditions under which this trade takes place.

Towards a sound development of trade

45. Why is this not happening? There are probably a large number of reasons for this, but the most important seems to be the desire to support farmers' incomes and the belief that hindrances to trade are essential for this purpose. Some people go even further in considering that hindrances to trade are necessary because of the conditions prevailing at present in international markets. It is true that imports at low prices and at the wrong time are the source of difficulties for some categories of domestic farmers, whose production is not efficiently organised and who have difficulties in adjusting to new market conditions. Interventions at the frontier are intended to protect the small and low-income farmer, but very often they result in an unduly high protection for the larger producers.

46. There are some people who believe that the biggest competition takes place nowadays between groups of producers within the same country operating under entirely different economic and social conditions, rather than between efficient commercial producers of different countries. Obstacles to trade may not be of great use in restoring the balance within a country, but may cause injury to efficient producers in all countries because of the chain reactions to which these interventions give rise.

47. For many years the OECD through its analyses and reports has advocated the formulation of policies which would make of agriculture a modern economic

sector in all countries, a sector which would be able to find its proper place - and a rewarding one - in highly industrialised countries. The social implications of such policies have not been lost sight of: on the contrary, through the years, it has become abundantly clear that present policies, geared almost exclusively to market interventions, are not capable of relieving - not to say correcting - the social burdens which fall on small producers who cannot have much expectation of substantially raising their incomes through the market. It is possible to visualise policies and programmes which could reconcile the objective of promoting a sound and progressive agricultural sector with that of taking care of the "social" cases: the important thing consists in not confusing the issues.

48. Such policies are almost bound to have beneficial effects on international trade and on the international division of labour based on sound regional specialisation of production. The discussion of national policies, both as regards production orientation and price levels, may lead to a certain understanding among countries as to where the mutual advantages lie. Is it so utopian to believe that part of the present arsenal of protective devices applied by every country could gradually be removed as progress is made towards the elaboration of an internationally agreed agricultural regime? Problems of access to growing markets, of reassessment of support levels and techniques, not to mention the crucial problem of assisting the food deficient countries in extensive parts of the world, could easily be found in such a context.

49. The recent meeting of Ministers for Agriculture in the OECD suggests that it should not be utopian to expect a better understanding among the countries concerned. Everybody realises that time is not working in favour of agriculture, and that policies need to be reassessed and changed where necessary as soon as possible. We need new approaches to the problems of agriculture, both at national and international level. Everybody is conscious that if these new policies "are to succeed at national level and if further imbalances and difficulties on international markets are to be avoided, it is important for countries not to act in isolation but for each country to share in the development and implementation of constructive policies and to participate in consultations at an international level"(1). Ministers for Agriculture recommended that the OECD be used as a forum for moving towards a better co-ordination of the agricultural production and trade policies of the industrialised countries of the Western World.

(1) Press Communiqué released after the OECD meeting of Ministers for Agriculture, 28-29 November, 1968.

Table 1.- Economic performance of OECD countries as revealed in National Accounts Statistics

Country	Annual growth in real GNP 1957-66			1964-66			1964-66			1966		
	Total	Per capita	(%)	GNP per head	current expenditure	(U.S. dol.)	Government investment	(%) of GNP	(%) of GNP	Foreign trade	(2)	Agriculture
Austria	4.5	3.9	1,030	13.6	25.3	30.6	8.8	20.0				
Belgium, Luxembourg	3.9	3.3	1,570	13.0	20.2	41.5	5.8	6.0				
Canada	4.5	2.4	2,480	14.3	23.3	23.4	7.1	9.0				
Denmark	4.9	4.1	1,550	15.5	23.7	40.5	10.2	16.6				
France	4.9	3.8	1,780	13.4	22.1	16.9	7.4	17.3				
Germany (F.R.)	5.1	4.6	1,490	15.4	25.7	24.3	4.2	10.8				
Greece	6.5	5.8	630									
Iceland	5.2	3.2	2,960	9.1	30.7	32.1	25.1	50.2				
Ireland	3.7	3.7	770									
Italy	5.4	4.7	870	14.3	20.5	22.8	12.5	24.9				
Japan	9.6	8.5	700	9.5	34.4	15.1	11.5	24.2				
Netherlands	4.7	3.3	1,150	15.8	27.3	62.9	7.5	8.5				
Norway	4.3	3.4	1,570	16.3	31.1	54.4	8.5	19.2				
Portugal	5.4	4.5	360	12.3	18.6	28.5	18.7	34.8				
Spain	6.5	5.7										
Sweden	4.3	3.6	2,000	19.7	22.9	29.8	7.1	10.2				
Switzerland	4.5	2.7	1,850	11.6	26.7	37.9						
Turkey	4.9	2.2	270									
United Kingdom	3.2	2.5	1,550	16.7	18.5	23.4	37.6	73.3				
United States	4.2	2.6	3,370	18.5	17.0	5.6	3.2	3.4				
OECD Total (weighted)	4.6	3.3	1,810	15.0	20.2	13.9	3.3	5.5				
Total (unweighted)					14.3	24.3	30.6					

(1) Exports plus imports of goods and services divided by two.
 (2) Including forestry and fishing.

Source: OECD, National Accounts Statistics and Manpower Statistics.

Table 2.- Trends in active population in
agriculture, forestry and fishing

Country	Annual rate of change			Agriculture as % of total in 1966
	1956-1961	1961-1966	1956-1966	
	(%)	(%)	(%)	
Austria	-3.6	(-3.0)	(-3.3)	20.7
Belgium	-3.3	(-5.1)	(-4.2)	5.4
Luxembourg	(-4.4)	(-3.0)	(-3.7)	12.9
Denmark	-2.5	-3.0	-2.8	16.6
France	-3.6	-3.4	-3.5	17.3
Germany	-3.8	-3.6	-3.7	10.8
Greece	(+0.4)	-1.1	(-0.4)	50.2
Iceland	(-2.2)	(-2.2)	(-2.2)	20.5
Ireland	-2.5	-2.7	-2.6	31.9
Italy	-3.6	-5.6	-4.6	24.9
Netherlands	-2.9	-3.6	-3.2	8.5
Norway	-2.9	-2.8	-2.8	19.2
Portugal	(-2.0)	(-3.7)	(-2.8)	34.8
Spain	-1.3	-3.9	-2.2	32.6
Sweden	(-1.8)	-6.0	(-3.9)	10.2
Switzerland	(-2.5)	(-2.4)	(-2.4)	8.8
Turkey	(+0.5)	(+0.0)	(+0.2)	73.3
United Kingdom	-1.8	-3.8	-2.8	3.4
Canada	-3.0	-3.8	-3.4	9.0
United States	-3.7	-5.2	-4.5	5.5
OECD Europe	-1.9	-2.7	-2.3	21.5
North America	-3.6	-5.0	-4.3	5.8
Japan	-2.7	-3.6	-3.2	24.2
OECD area	-2.3	-3.2	-2.7	17.4

() Secretariat estimate.

Source: OECD, Manpower Statistics.

Table 3.- Trends in number of farms in selected OECD countries

Country	Period	Farms under 10 hectares		Annual rate of decline (compound)	Annual rate of decline (compound)
		As % of total in most recent year	Annual rate of decline (compound)		
Austria	1951-1960	64.0	-1.3	-0.8	
Denmark	1951-1960	46.7	-0.8	-0.6	
"	1960-1966	37.2	-6.3	-2.7	
France	1955-1963	48.0	-4.1	-2.3	
Germany	1960-1967	68.1	-3.1	-2.1	
Netherlands	1955-1959	72.4	-1.1	-0.5	
"	1959-1966	66.0	-3.7	-2.5	
Sweden	1951-1955	63.7 ⁽¹⁾	-2.1 ⁽¹⁾	-1.3	
"	1955-1961	60.8 ⁽¹⁾	-3.1 ⁽¹⁾	-2.3	
"	1961-1966	54.9 ⁽¹⁾	-6.3 ⁽¹⁾	-4.4	
Switzerland	1955-1965	70.6	-3.4	-2.4	
United Kingdom	1955-1960	40.5 ⁽²⁾	-1.7 ⁽²⁾	-1.7	
" "	1960-1964	38.5 ⁽²⁾	-2.9 ⁽²⁾	-1.7	
United States	1950-1954	35.5 ⁽³⁾	-3.6 ⁽³⁾	-2.9	
" "	1954-1959	28.5 ⁽³⁾	-9.0 ⁽³⁾	-5.0	
" "	1959-1964	26.0 ⁽³⁾	-5.0 ⁽³⁾	-3.2	
Japan	1955-1960	69.8 ⁽⁴⁾	-0.3 ⁽⁴⁾	---	
"	1960-1965	68.7 ⁽⁴⁾	-1.6 ⁽⁴⁾	-1.3	

(1) 2-10 hectares.

(2) Under 6 hectares.

(3) Under 20 hectares.

(4) Under 1 hectare.

Source: National publications.

Table 4.- Development in the value of foreign trade, 1960-1967

(Annual increases, % compound)

Area	Gross trade (1) (including trade within)		Trade within area (2)	
	Total (3)	Agriculture (4)	Total (3)	Agriculture (4)

OECD	8.6	6.5	9.9	7.6
OECD European	8.4	6.5	10.8	10.6
EEC	9.3	7.9	13.3	13.3
EFTA	6.6	4.2	10.5	7.6
North American	7.9	5.4	---	---
Japan	14.7	13.8	---	---
...

(1) Average of sum of countries' imports (at c.i.f. values, except for Canada and the United States where they are at f.o.b. values) and of exports (at f.o.b. values) at current prices and exchange rates.

(2) Based on export values at current prices and exchange rates.

(3) SITC 0/9.

(4) SITC 0, 1, 4, 22 and 29.

Source: OECD, Statistical Bulletins, Foreign Trade, Series B. For Japan, National sources.

Table 5.- Growth of trade in agriculture as a percentage of growth of total trade within each area

Area	(At current prices)	
	1953-1959	
	Percent	Percent
OECD, total	57	77
OECD European	76	98
EEC	77	100
EFTA	n.a.	72
...

Source: OECD, Statistical Bulletins, Foreign Trade, Series B.

Table 6.- Trends in agricultural and food trade in OECD member countries, 1960 to 1966

(At current prices)

Country	Agricultural imports		Agricultural exports		Agricultural trade (1)		Total trade (2)	
	(1)	(2)	Share of OECD total:	Annual rate of increase 1966 : (% compound)	OECD total: 1966 : (% compound)	Annual rate of increase 1966 : (% compound)	(imports + exports)	(% compound)
Austria	1.2	6.6	0.4	7.5	6.8	7.5	11.4	8.0
Belgium-Luxembourg	3.6	9.0	2.7	17.5	7.6	10.3	10.4	8.9
Canada	3.0	3.6	10.3	9.7	5.6	5.7	8.8	8.8
Denmark	1.7	5.9	6.4	11.2	8.3	8.3	9.5	9.5
France	8.2	6.4	9.5	2.8	10.9	8.5	10.0	10.0
Germany	16.0	8.2	13.4	1.4	11.4	12.2	10.3	10.3
Greece	0.6	0.1	8.1	0.7	13.0	12.3	11.6	11.6
Iceland	0.1	0.7	8.6	2.0	6.4	7.2	8.4	8.4
Ireland	0.7	7.4	13.5	4.9	7.3	11.3	12.0	12.0
Italy	7.4	18.4	18.4	2.2	7.4	15.6	14.7	14.7
Japan	7.9	4.5	7.5	9.6	6.6	7.0	9.5	9.5
Netherlands	4.5	1.0	5.6	1.5	7.6	6.6	9.2	9.2
Norway	0.6	0.6	14.5	0.8	10.5	12.5	11.2	11.2
Portugal	0.6	2.5	27.4	2.9	6.1	14.7	22.2	22.2
Spain	2.2	2.2	8.2	0.7	7.6	8.1	8.4	8.4
Sweden	2.4	0.2	8.0	1.0	9.3	8.2	9.7	9.7
Switzerland	0.2	18.6	4.7	1.5	4.8	4.7	7.5	7.5
Turkey	17.6	1.6	5.1	5.0	8.1	2.4	5.2	5.2
United Kingdom	17.6	5.1	33.7	8.8	7.1	7.1	8.1	8.1
TOTAL	100.0	7.0	100.0	8.6	7.6			
TOTAL (mil. U.S. \$)	28,209		19,129					

(1) SITC 0, 1, 4, 22 and 29. (2) SITC 0/9.

Source: OECD Statistical Bulletins, Foreign Trade, Series B.

Table 7.- Trends in agricultural commodity trade in the OECD area, 1960 to 1966

O.E.C.D. Europe									
O.E.C.D. area					Exports				
		Imports		Exports			Imports		Exports
S.I.T.C.	Percentage:	Annual	Percentage:	Annual	Percentage:	Annual	Percentage:	Annual	Percentage:
divisions	composi-	rate of	composi-	rate of	composi-	rate of	composi-	rate of	composi-
	increase	(%)	increase	(%)	increase	(%)	increase	(%)	increase
	1966	compound)	1966	compound)	1966	compound)	1966	compound)	1966
Live animals and meat	00.01	13.8	8.1	11.5	6.5	15.0	7.5	18.0	6.8
Dairy products and eggs	02	4.8	4.4	6.9	5.0	6.0	3.6	11.2	5.7
Fish and fish products	03	5.1	11.4	6.0	8.2	3.7	10.2	6.0	8.3
Cereals and cereal products	04	14.2	9.4	28.6	12.0	15.2	7.9	10.9	16.5
of which: wheat	041	3.9	4.1	14.1	11.7	4.0	3.3	3.1	19.4
Fruit and vegetables	05	16.5	8.6	13.2	7.1	18.2	8.5	18.5	8.1
Sugar and sugar preparations	06	5.0	2.9	1.6	3.9	3.2	5.6	2.5	4.0
Tropical beverages(1)	071, 072, 074	11.8	2.6	---	---	8.9	3.4	---	---
Feeding stuffs (excluding unmilled cereals)	08	5.3	14.9	4.1	19.8	6.3	13.7	3.7	16.4
Beverages	11	4.6	6.4	6.2	5.6	3.7	4.0	10.3	8.7
Tobacco	12	3.8	4.7	5.8	6.4	4.3	4.0	4.4	9.7
Oils and fats	091, 22, 4	10.4	5.4	9.8	7.2	10.6	4.2	5.0	4.9
Other products	---	4.7	7.2	6.3	7.4	4.9	8.0	9.5	7.3
TOTAL	---	100.0	7.0	100.0	8.6	100.0	6.8	100.0	8.3
TOTAL (Mil. U.S. \$)	28,209			19,129		20,172		10,285	

(1) On the export side tropical beverages are included under "Other products".

Source: OECD, Statistical Bulletins, Foreign Trade, Series B.

Table 8.- Surplus or deficits of dairy products for OECD countries

Item	(In whole milk equivalent)			
	1965		1970(1)	
	Surplus	Deficit	Surplus	Deficit
	1,000 m. tons	1,000 m. tons	1,000 m. tons	1,000 m. tons
<u>Countries with a surplus</u>				
EEC	2,430		(9,000) ⁽²⁾	
Western Europe other than EEC and the UK	5,590		5,900 ⁽³⁾	
United States and Canada	1,120		370	
Total (A)	9,140		15,270	
<u>Countries with a deficit</u>				
United Kingdom		12,390		12,990
Mediterranean countries		860		(0-1,800) ⁽⁴⁾
Japan		510		(1,000)
Total (B)		13,760		13,990 to 15,790
Total OECD (B)-(A)		4,620	Between a surplus of 1,280 and a deficit of 520	
Oceania	7,500			
Eastern Europe	600			

(1) National forecasts, or between brackets () estimates by the OECD Secretariat.

(2) High assumption.

(3) Including a deficit for Sweden of 60,000 tons as against a surplus of 120,000 tons in 1965.

(4) If national production plan targets are achieved, total productions would equal total demand; deficit of 18 million tons on the contrary assumption.

Source: OECD, Prospects of the Market for Dairy Products, Paris, 1968.

Table 9.- Surplus or deficits of beef and veal for OECD countries

(In carcass weight)

Item	1964		1970(1)	
	Surplus	Deficit	Surplus	Deficit
	1,000 m. tons	1,000 m. tons	1,000 m. tons	1,000 m. tons
<u>Countries with a deficit</u>				
EEC		428	500 to 600	
United Kingdom		355	585(2)	
Greece, Norway, Portugal, Spain, Sweden, and Switzerland		152(3)	185	
United States		512	318	
Japan		6	(25)	
Total (A)(4)		1,458	1,613 to 1,713	
<u>Countries with a surplus</u>				
Austria, Denmark, Ireland, Turkey, and Yugoslavia	292(3)	5(3)	596	
Canada			101	
Total (B)	292		697	
Total OECD (A)-(B)		1,166	918 to 1,018	
Oceania and River Plate Countries (according to FAO projections)			1,205 to 1,375	

(1) National forecasts or between brackets () estimates by the OECD Secretariat.

(2) Including 120,000 tons equivalent of imported canned meat.

(3) Figures for Canada, Greece, Ireland and Spain are those of 1963.

(4) Including the deficit for Canada.

Source: OECD, The Market for Beef and Veal, Paris, 1967 and OECD documents.

Table 10.- Foreign trade situation for specified fresh and processed fruit and vegetables in OECD Europe

Item	(1,000 metric tons)					
	Fresh market				Processed products	
	Apples	Pears	Peaches	Tomatoes	Tomatoes	Peaches
	:	:	:	:	:	:
<u>Ø 1957-60</u>	:					
Exports	634	150	188	377	946	6
Imports	878	229	175	553	496	128
Net balance	-244	- 79	+ 13	-176	+381	-122
<u>Ø 1961-64</u>	:					
Exports	734	228	286	471	1,165	3
Imports	1,114	319	276	632	719	199
Net balance	-380	- 91	+ 10	-161	+289	-196
<u>1970 estimate</u>	:					
Export availabilities	1,651	810	556	676	2,154	32
Import requirements	1,205	347	351	697	876	246
Net balance	+446	+463	+205	- 21	+1,123	-214

Source: OECD, Production of Fruit and Vegetables in OECD Countries, various issues, Paris 1967, 1968.

Table 11.- Net trade in grains (excluding rice)

Area	(Million metric tons)		
	1961-63	1975	1985
	:	:	:
North America	+46.2	+107.4	+141.2
EEC	-10.8	- 8.1	- 6.9
Other N.W. Europe	-12.2	- 4.8	- 2.8
S. Europe	- 3.5	+ 1.8	+ 1.9
Japan	- 6.0	-16.7	-24.0
Oceania	+ 6.6	+10.2	+11.4
Total	+20.3	+89.8	+120.8

Exports + ; Imports -

Source: OECD, Agricultural Projections for 1975 and 1985, Paris, 1968.

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Other N.W. Europe	-12.2	- 4.8	- 2.8
S. Europe	- 3.5	+ 1.8	+ 1.9
Japan	- 6.0	-16.7	-24.0
Oceania	+ 6.6	+10.2	+11.4
⋮	⋮	⋮	⋮
Total	+20.3	+89.8	+120.8
⋮	⋮	⋮	⋮

Exports + ; Imports -

Source: OECD, Agricultural Projections for 1975 and 1985, Paris, 1968.

Table 12.- Net trade in milk products

(1,000 metric tons)

Area	In terms of butterfat			In terms of solids-nonfat		
	1961-63	1975	1985	1961-63	1975	1985
	1961-63	1975	1985	1961-63	1975	1985
North America	+68	+ 22	- 42	+453	+ 75	-213
EEC	+50	+289	+255	+117	+641	+466
Other N.W. Europe	-218	-201	-228	+ 89	+271	+311
S. Europe	-16	- 56	-100	- 47	- 63	- 75
Japan	- 2	- 23	- 31	- 57	- 97	-119
Oceania	+269	+355	+400	+213	+415	+522
Total	+151	+386	+254	+768	+1,242	+892

Exports + ; Imports -

Source: OECD, Agricultural Projections for 1975 and 1985, Paris, 1968.

Table 13.- Net trade in beef and veal

Area	(carcass weight equivalent)		
	1961-63	1975	1985
	1,000 m. tons	1,000 m. tons	1,000 m. tons
North America	-368	-1,366	-1,541
Europe	-442	-1,061	-1,442
Japan	- 5	- 104	- 106
Oceania	+559	+ 870	-1,182
Total	-256	-1,661	-1,907

Exports + ; Imports -

Source: OECD, Agricultural Projections for 1975 and 1985, Paris, 1968.

Table 15.- Estimated budgetary expenditure for agriculture per active person in agriculture in selected OECD countries

Country	(U.S. dollars at current prices)		
	1960	1964	1968
<u>Total Expenditure for Agriculture</u>
France	208	553	907
Germany(1)	231	422	625
Netherlands	440	622	890
Japan(2)	42	101	197(3)
Switzerland(1)	325	633	1,391
United Kingdom	693	783	981
United States(1)	661	1,210	1,192
<u>Expenditure for Price and Income Support Only</u>
France	35	123	224
Germany(1)	122	137	211
Netherlands	252	297	218
Japan(2)	7	27	68(3)
Switzerland(1)	258	422	925
United Kingdom	399	432	500
United States(1)	434	916	926

(1) Only funds from the Federal budget.

(2) The figures include forestry and fishing.

(3) In 1967.

Note: The agricultural labour force data are taken from the OECD Manpower Statistics, except for Germany and the Netherlands where labour units have been used. For Switzerland developments in the male labour force have only been taken. Data for 1967 and 1968 have been estimated by extrapolation.

It should be noted that budgetary expenditure is only one form of protection of agriculture; protection at the frontier, which is another important means of support, is not reflected in the figures of this table. Any inter-country comparison should therefore be made with caution.

Source: Various national publications.

Table 14.- Estimated budgetary expenditure for agriculture and food as a percentage of value of agricultural output in selected OECD countries

Country	1960	1964	1968
	Pct.	Pct.	Pct.
<u>Total Expenditure for Agriculture</u>			
France	11.8	22.0	25.2
Germany(1)	9.1	10.7	12.1
Netherlands	10.7	10.4	10.7(2)
Japan	10.0	14.1	17.0(3)
Switzerland(1)	11.0	14.3	17.1(3)
United Kingdom	17.6	14.9	14.3
United States(1)	9.6	13.9	8.5
<u>Expenditure for Price and Income Support Only</u>			
France	2.0	4.9	6.2
Germany(1)	4.8	3.5	4.1
Netherlands	6.2	5.0	4.7(2)
Japan	2.6	4.2	6.6(3)
Switzerland(1)	8.7	9.5	10.0(3)
United Kingdom	10.1	8.2	7.3
United States(1)	6.3	10.5	6.6

(1) Only funds from the Federal budget.

(2) In 1966.

(3) In 1967.

Note: The value of agricultural output in each country has been estimated at national prices. Government expenditure and value of output are at current prices.

It should be noted that budgetary expenditure is only one form of protection of agriculture; protection at the frontier, which is another important means of support, is not reflected in the figures of this table. Any inter-country comparison should therefore be made with caution.

Source: Various national publications.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

THE WORLD FOOD SITUATION IN PERSPECTIVE

Talk by Quentin M. West, Director
Foreign Regional Analysis Division
at the National Agricultural Outlook Conference
Washington, D.C., 3:15 PM., Monday, February 17, 1969

In his recent visit to the Department of Agriculture, President Nixon stressed the importance of the battle against hunger and emphasized the role of our agricultural abundance in "dealing with hunger in the United States and the world".

President Johnson likewise focused attention on the world food problem. In his 1967 State of the Union Message, he said: "Next to the pursuit of peace, the really greatest challenge to the human family is the race between food supply and population increase".

The world food situation will continue to be of major interest to American agriculture. Not only do we have a concern for feeding hungry people in the developing countries, but the level of food aid is critical to our agricultural exports and therefore affects our domestic production programs.

Opinions about the nature and outlook for the world food problem have periodically swung like a pendulum between pessimism and optimism. In the late 1940's, there was a widespread feeling of pessimism. However, surpluses

began to accumulate in the United States in the early 1950's and it seemed that getting rid of the surpluses was more of a problem than shortages. But by the mid-1960's, U.S. acreage controls, food aid programs, unfavorable weather, as well as increased exports reduced the surpluses.

In 1966, world grain stocks were rapidly drawn down, mainly as a result of greatly expanded imports by India and the USSR. India had two droughts in succession and the USSR had two crop failures in 3 years. Also, Australia had a poor crop. U.S. stocks were greatly reduced, the outlook for wheat yields didn't look good, and acreage allotment for the 1967 U.S. wheat crop was increased considerably. Malthus' theory that population would inevitably outrun food supply suddenly became very popular again.

In 1967, the situation was radically different. Record food crops were produced in both the developed and the developing countries. In fact, the per capita food output in the LDC's (excluding Mainland China) increased about 5 to 6 percent, which was a recovery to the previous high of 1964. In 1968, per capita production remained at about the same level.

However, there are still some who believe the world is in imminent danger of running out of food and that mass starvation is highly probable. C.P. Snow received the most attention recently when he said, in a lecture at Westminister College in November, 1968: "The fact that in the unlucky countries the population is growing faster than the food to keep it alive. The fact that we may be moving--perhaps in 10 years--into large-scale famine.... that many millions of people in poor countries are going to starve to death before our eyes--or, to complete the domestic picture, we shall see them doing so upon our television sets".

On the other hand, William Gaud, formerly Administrator of the Agency for International Development, believes that there is a new technology in the production of wheat and rice, especially in Asia, which is a Green Revolution that "can be as significant and as beneficial to mankind as the industrial revolution of a century and a half ago". 1/ Lester Brown, formerly Administrator of the USDA's International Agricultural Development Service, has said: "The world recently entered a new agricultural era--characterized by explosive increases in production of principal crops in the larger developing countries of Asia. ... Within the next several years, the agricultural revolution will likely spread to most of the less developed world". 2/

In the introduction to the papers for the Thirty-fourth American Assembly, which he edited, Secretary Clifford M. Hardin took a more moderate but hopeful view. He said, "Hope that the world's population of 2000 A.D. can be fed and fed better than in mankinds' entire history arises from accomplishments recorded in the late 1960's. It is still a hope, not a certainty. But this optimistic goal is attainable with continuing, concerted efforts of unprecedented magnitude by the worlds' community of nations.

This is the opportunity--this is the challenge!" 3/

1/ Paper given before the Society for International Development, March 8, 1968.

2/ Paper given at Kansas State University, December 3, 1968.

3/ Overcoming World Hunger, Clifford M. Hardin, Editor, Prentice-Hall, Inc. 1969.

Current Food Situation

Where does the truth lie? What is the situation and outlook with regard to the world food problem? Has the situation and prospects really changed so drastically within the period of a very few years?

In evaluating a situation such as this it is important to keep in mind several aspects:

- The basic information is not very good. The measures we have of food production, food availability, population, and nutritional needs in most of the poor countries are not very reliable.

- The procedures or methods by which projections are made are, at best, capable of yielding results of very limited reliability when extended very far into the future. Neither economists, nor demographers, who do most of the projecting, have a very precise science of forecasting.

- Very important in evaluating the future of the world food problem is a judgment as to what the policies of various governments will be with regard to aid, trade, agricultural development programs, population programs, price supports and acreage controls. Assumptions as to these policies, including those of the United States, are extremely critical in looking into the future of the world food problem.

Despite these difficulties, we in the Economic Research Service do try to measure world food availability, and make some modest projections into the future. We have never shared the extreme pessimism of some commentators. In our World Food Budget published in 1964, we pointed out that production

in the poor countries of the free world had increased annually about one-third of 1 percent per capita since prewar, and we expected it to continue to increase at about the same rate during the 1960's. Consumption has increased a little more, one-half of 1 percent per capita, principally because of the availability of food aid from the United States. 4/

In 1967, we published a study in which we said that growth in the production capacity in the developed countries would continue to be more than ample to meet the import needs of the less-developed world. In fact, there would continue to be excess production capacity in the developed countries even if growth in food production did not accelerate in the developing countries. 5/

Despite reservation about some of the data, I think it is clear that there is much hunger in the world today. Perhaps two-thirds of the world's people live in countries, which on the average don't have enough food to give everyone nutritionally adequate diets. Diet-deficit areas include all of Asia except Japan, Taiwan and Israel, all but the southern tip of Africa, Central America, and much of South America. As far as we can measure it, the calorie level of the diets of the people in these areas averages about three-fourths of that of the people living in countries with adequate diets, and on the average seems to be considerably below the amount which would be desirable for normal activity and health. There also is a deficiency of protein in the diets of most of the poor countries. According to

4/ The World Food Budget, 1970, FAER 19, USDA, October 1964.

5/ Abel, Martin E. and Rojko, Anthony S., World Food Situation: Prospects for World Grain Production, Consumption and Trade, FAER 35, USDA, September 1967.

our measurement the amount of grain required to bring the average diets of the free-world poor countries up to a minimum nutritional level would amount to about 25 million metric tons. This amount would, of course, not guarantee that everyone would get enough to eat. About two-thirds of this deficit is in four countries--India, Pakistan, Indonesia, and Egypt with nearly half the total deficit in India.

Future Prospects

What about the future? One of the major uncertainties is population growth. In this month's Readers Digest, Paul R. Ehrlich, author of The Population Bomb, said: "A tripling of the world's food supply will be necessary in the next 30 years, if the seven billion people who may be alive in the year 2000 are to be adequately fed. ...But it is increasingly clear that this is not going to happen. And even if there were such a miracle, it is already too late to prevent a drastic rise in the death rate through starvation".

On the other hand, Donald J. Bogue, Director of the Community and Family Study Center, the University of Chicago, has said: "The trend of the worldwide movement toward fertility control has already reached a state where declines in death rates are being surpassed by declines in birthrates. ...The rate of population growth will slacken at such a pace that it will be zero or near zero at about the year 2000, so that population growth will not be regarded as a major social problem except in isolated and small 'retarded' areas". 6/

6/ Paper given at Iowa State University,
November 8, 1966.

Don Paarlberg, of Purdue University says that one should not ask, "Will the world be able to feed its people by the year 2000? Such people as are then in the world will be fed; one cannot live on non-existent food". He says the appropriate questions are, "How many people will there be by the year 2000? How well will they be fed? And, What can we do to improve nutrition levels?" Paarlberg points out that there are various important "adjusters" in the food supply: increased production, livestock farming, intensification of the crop system, technology, stocks of food and trade". These adjusters provide enough flexibility to prevent famine. Thus he says: "There is enough flexibility in this system so that any projection of existing production patterns, existing diets and existing rates of population growth, with the inevitable prediction of food gap or food surplus is bound to be wrong".^{7/}

New Technology

What about the new technological breakthroughs and the "Green Revolution"? Has there really been a radical change in the outlook for production in the poor countries? There is evidence that there is a greater appreciation of the importance of agriculture in economic development, both in the poor countries and in the countries which give economic aid, including the United States. This was probably fostered by concern over the world food problem, a decline in surplus stocks, and the specific emphasis on agricultural development as a condition for U.S. food aid. A number of countries are spending more for fertilizer and generally increasing their agricultural budget. There seems to be a willingness to allow farm prices to go higher as an incentive to farmers to produce.

^{7/} Overcoming World Hunger, Op. cit. pp 41-45.

The most important technological development contributing to the improved outlook of the LDC's is the development of new high-yielding varieties of wheat, rice, corn, and sorghum. These new varieties of grain are much more responsive to heavy doses of fertilizer than are the traditional varieties. When grown under suitable conditions they can produce yields double those of the older varieties.

The most highly publicized, and thus far the most important, of the new grain varieties are the dwarf wheat developed in Mexico and the tropical rice varieties developed at the International Rice Research Institute in the Philippines. These two types of grain have already spread rather far in Asia. In India and Pakistan, the Mexican wheat now covers about 15 to 20 percent of the total wheat acreage. In the 1968/69 crop season, the IRRI rice varieties will be planted on about 5 percent of the total rice land in South and Southeast Asia. Although it's difficult to evaluate the increase in production from the new varieties, we have estimated that they will add perhaps 7 percent to rice production in Asia in 1968, compared with what production would be without them. Wheat production in West and South Asia in 1968/69 may be about 20 percent higher because of the new wheat varieties. Such increases really are a tremendous achievement. Several countries which are now importing substantial quantities of grain may soon be able to meet their own demand for food grains.

There are several factors which will probably impede the expansion of the new varieties of rice and wheat. Because they are new to the region where they are being introduced it is possible that they will become susceptible to local diseases and insects. Only farmers with reliable irrigation can

afford the risk of borrowing money for fertilizer and chemicals required to effectively produce the new grain varieties. Drying has been a problem in some countries. Also the new rice generally is not as well liked by consumers as the traditional varieties and tends to be discounted in the markets. As production increases, farm prices may fall and the priority given to agriculture by the governments of these countries may lessen. Unless the marketing and distribution facilities and institutions are improved price declines may give farmers much less incentive to adopt the new varieties and produce more with them. Of equal importance, as some of these countries begin to produce a surplus over their own effective demand the problems of finding export markets at satisfactory prices may become very important.

All these factors could slow the spread of the new technology and to some degree probably will. Therefore, we must not expect an agricultural revolution that will solve all the food problems of less-developed countries in the next few years. However, we can expect substantial additions to locally grown food supplies. It should relieve the pressure to produce or import grains to provide sufficient quantity of food and enable these countries to begin to plan for better quality of diet, including livestock products, pulses, fruits, and vegetables.

Food Aid

The policy of the United States is to encourage and assist the developing nations of the free world to develop economically and to improve their own food production so that they will become less dependent on food aid. A very

significant feature of the Food for Freedom program is the requirement of self-help efforts to accelerate food production within the food-deficit countries themselves. Although food aid probably will continue to be needed for the next decade dependence of the LDC's on it should diminish as they accelerate agricultural development and economic growth to a level where they can produce or commercially import their food requirements.

Food aid has been important to both the recipient countries and to the United States. Since the program began, we have shipped over 135 million tons of wheat and about 40 million tons of other grains to 100 needy countries. It annually represents $\$1\frac{1}{2}$ billion of agricultural exports from the United States. It accounts for one-half to two-thirds of our wheat exports and one-third to one-half of our rice shipments. It has enabled the LDC's to improve their diets faster than otherwise possible. But in some cases, it has allowed countries to put lower priority on agricultural production and population control.

Outlook for U.S. Food Grain Exports in the Next Five Years

In recent years, there have been marked changes in the patterns and levels of the world trade in food grains. Underlying these changes are the following developments:

- The Soviet Union had two poor grain harvests in 1963 and 1965, which forced them into large imports. Since then, however, they have had good or exceptional grain crops each year.
- India experienced two consecutive years of severe drought in 1965 and 1966. Food grain production was adversely affected which led to sharply increased food aid shipments in order to avert mass starvation. Crop

production increased almost one-fifth in 1967 and was up another 4 percent in 1968.

- Japan's rapid economic growth has resulted in a rising import demand for grains--both for food and feed. Japan is the largest single country market for U.S. agricultural products.

- Mainland China continues to purchase relatively large supplies of wheat, primarily from Australia and Canada.

- New technology is having an impact on food production in several of the deficit countries of Asia. Many are intensifying their programs to achieve self-sufficiency in food grains.

- Enactment of the Common Agricultural Policy of the European Community has resulted in high producer grain prices protected from the world price levels, which in turn has stimulated increased production while holding down consumption.

Our outlook for exports of U.S. wheat and rice 5 years into the future is founded on a number of basic assumptions:

- A continuation of current programs and policies affecting agriculture and trade in foreign countries.

- A firm position in the world market taken by the United States to maintain its present share. Food aid will be an important part of this export effort although it may be modified from its present form.

- No crop failures of the magnitude of the 1963 harvest in the Soviet Union and the two poor harvests in India.

- The return of normal trade relations in the Middle East and South East Asia.

- Continuation of the recent success of the new technology fostering an accelerated rate of agricultural growth in the LDC's.
- No world-wide conflict.

Wheat

Wheat is one of the world's most important foods and is by far the most widely traded food internationally. Our wheat exports have nearly doubled in the past 10 years, partly as a result of our expanded food aid program under Public Law 480 but also as a result of increasing commercial shipments. Our concessional shipments account for the largest part of our wheat exports but their relative importance has declined in recent years.

U.S. wheat shipments in fiscal year 1967/68 were valued at \$1.3 billion, one-fifth of total U.S. agricultural exports. India has been our largest country market and these sales, of course, are mainly concessional. Japan is our leading commercial market for wheat and is an excellent example of what occurs when there is a change in the pattern of consumption in a country with a rapidly expanding economy.

The very size of our wheat exports is an indication of their importance to our domestic supply situation. Wheat shipments for the last 4 fiscal years have amounted to 60 percent of our domestic output.

It appears that 1968 has been a pivotal year in the world wheat situation. Wheat output has soared in the major food-deficit countries. Wheat production in the 5 largest exporters--the United States, Canada, France, Australia, and Argentina--was also a record. Stocks are building up as

import demand--both commercial and concessional--has slackened. Consequently, producer and export prices have fallen sharply in several of the major producing countries.

Our outlook for 1973/74 generally reflects a continuation of the current international situation--a slow up in the growth in import demand and abundant supplies in major exporting countries. We expect that there will be continuing pressure on prices, and exporters will continue to vie keenly for the commercial markets. With continued production successes in many developing countries, we foresee that food aid requirements will taper off. We do assume that the United States will continue to have a food assistance program, though it may be somewhat modified from its present form.

We project only a modest growth for U.S. wheat exports--21.5 million tons by 1973/74, which is only about 5 percent above the 1967/68 level and still below the high levels of 1963/64 and 1965/66 (table 1, chart 1). We visualize the greatest relative changes in both our commercial and concessional markets to occur in the developing world, particularly the Asian countries.

I have already remarked about the high-yielding dwarf wheat varieties in reference to the new technology. There is now no doubt that the record 1968 wheat harvest in India and Pakistan was partly due to the use of these varieties coupled with sharply increased application of fertilizer, although the degree of this impact has been masked by favorable weather conditions. And we expect that the new technology will have a continued

positive effect on wheat output in these two countries, as the production function shifts upward. As a result of increased supplies of domestically produced grain, food aid requirements will be substantially reduced from the very high levels of recent years. Thus, our food shipments to India and Pakistan are anticipated to be down at least 40 percent from the 8 million tons in 1967/68.

In looking ahead 5 years, I see excellent potentials in countries which are moving into a faster stage of economic growth; and these are not necessarily concessional markets. These markets include South Korea, Taiwan, the Philippines, Venezuela, and Central America and the Caribbean.

These countries have several common characteristics which are important to the import demand for wheat. First, another grain has been the major food staple--rice in the Asian countries and corn and/or sorghum in the Latin American countries. Second, relatively little wheat is produced in these countries, primarily because of climatic or agronomic limitations. Third, there are changing consumer tastes and preferences in favor of wheat products; this no doubt has been encouraged by some ~~of~~ the promotional campaign for wheat products. And last, incomes are rising and people have more purchasing power.

Individually, these markets are relatively small but collectively they could account for about 4.2 million tons of U.S. wheat exports in 1973/74, which would be up over 30 percent from the 1967/68 level.

Our exports to Western Europe are projected at 2.5 million tons, which would be down moderately from the average of the past 3 years. The per capita demand for wheat for food is declining in this region as incomes, which are already high, continue to rise. Any increase in total demand results from population growth. Import demand prospects are not bright as domestic wheat production is expected to continue to increase significantly. We anticipate that Western Europe will continue to import hard and durum wheats to blend with or supplement their domestic output, which is mainly soft wheat. But we can expect keen competition for this market from other wheat suppliers.

Per capita wheat consumption in Japan will continue to increase. Diets are being diversified to include more wheat as a result of rapidly rising per capita income and a very vigorous promotional campaign for wheat products on the part of the U.S. trade associations and the USDA. We project 1973/74 U.S. wheat exports to Japan at 2.5 million tons, which is nearly 20 percent above the average of the past 3 years. Here again, I should emphasize that our competitors will also be very much in evidence in this market.

We have assumed that by 1973/74 the United States will have resumed relations that were broken during the Middle East conflict of 1967. Should this occur, it is anticipated that the United States will supply at least a portion of the food assistance that will be needed in this region. As a result, we have projected our exports to Africa at 2.5 million tons, compared with shipments of 1.4 million tons in 1967/68.

Rice

With over 60 percent of the total domestic production moving into foreign markets, rice has been one of the most rapidly rising U.S. agricultural exports.

Capitalizing upon a reliable supply of quality rice and a period of scarce world supplies, the United States became the world's largest rice exporter in 1967, topping the nearest competitor, Thailand, by 20 percent. During 1968, our exports reached an estimated 1.9 million tons, roughly 27 percent of the total world rice exports. With current U.S. rice production up approximately 20 percent over 1967, U.S. rice exports could approximate 2.3 million tons for 1969.

Not only has the level of U.S. rice exports risen rapidly, but a significant shift in direction has occurred during the 1960 decade. Of the five countries--Cuba, India, Ceylon, UAR, and Iraq--which accounted for well over 50 percent of U.S. rice exports in 1959/60, only India received a small amount of U.S. rice in 1967/68. South Korea, South Vietnam and Hong Kong imported nearly 50 percent of U.S. rice exports that year. Our exports also gained moderately in West Europe and Africa.

Two favorable weather years in most of the Asian countries, along with continued success of advanced technology upon progressively larger acreages, have already resulted in an alleviation of the tight world rice supply situation. Export prices have fallen about 30 percent since June 1968 and as of November 11, 1968, were 25 percent below the comparable period of 1967. The Philippines and Pakistan have offered rice for export at

what appears to be rather low prices. In addition, Japan, traditionally a rice importer, has excessive stocks and is attempting to export several hundred thousand tons of rice on liberal terms.

The largest increase in import requirements is found in South Korea, where two successive drought years are expected to increase the country's 1969 rice import requirement to 700,000 tons. South Vietnam's rice import requirements are expected to fall to approximately 400,000 tons.

By 1973/74, we believe that the world rice situation will have adjusted from the pattern of relatively high prices and scarce supplies exhibited during recent years to one of generally adequate exportable supplies and significantly lower prices both in absolute terms as well as in relation to wheat, its nearest substitute. We expect a decrease in the production of rice in the major producing-trading countries of the developed world, but a rather significant increase in the production, and, therefore, slackening import requirements in many of the developing countries. However, depressed producer prices in the developing countries may dampen the recent production increases.

Production in both Italy and Spain is expected to drop from current high levels due to keen competition for land by other crops. Australia is expected to continue its modest upward trend in both production and exports. In the case of Japan, both acreage and production are expected to drop significantly from the unusually high levels of recent years. Japan is

initiating an acreage diversion program, hoping to divert 25,000 acres from rice to pasture and legumes in 1969.

In the developing areas, the major exporters are not expected to regain their previous export levels of the 1960's. Thailand, the major exporter, has not experienced significant increases in production in recent years. The effects of the technological revolution has not spread to Thailand, which requires high-quality rice for domestic use as well as for exports. Increasing domestic demand stemming mostly from a rapidly increasing population, and the absence of a critical shortage of foreign exchange, are expected to dampen the country's efforts to expand future exports much beyond the 1 million ton level.

Hampered by a general and progressive breakdown of her marketing structure, Burma's exports have dropped to record low levels. The Government's present plans to stimulate production and exports through the introduction of new variety seeds and complimentary inputs are expected to assist the country's return to more normal production and export levels.

With continued successes in the expanded plantings and production of the new variety rices, rice production in India, Pakistan, and Ceylon is expected to continue on an upward trend resulting in smaller import requirements. Indonesia is planning for self-sufficiency by the early 1970's. This objective appears reasonable but some imports may still be required by 1973/74.

The Philippines could become an exporter of rice, if it can find markets. South Korea has had trouble expanding production and will likely continue

to import. South Vietnam has made considerable progress in increasing rice production, but whether it will be importing or exporting rice in 5 years will depend on factors other than agricultural development.

The United States is expected to maintain her present status of the leading world rice exporter with exports of approximately 2 million tons in 1973/74 (table 2 and chart 2). Moderately higher yields would reduce acreage requirement. Exports could fall below this level if the United States does not move significant quantities under Government programs. Some expansion of exports for cash can be expected to the developed areas of the world, especially to the EEC countries. Some potential for rice exports for cash during the early 1970's lies within the developing areas of the world, especially in West Asia, West Africa, Singapore, Hong Kong, and Malaysia.

Summary

The less-developed countries have made considerable progress in increasing agricultural production. However, in most countries, agricultural development has not been sufficient to meet the expanding demand for food coming from a rapidly growing population, urbanization, and some increase in per capita income. In many countries, the gap has been filled by greatly increasing imports of grain, largely as food aid from the United States.

Improvement in per capita food consumption and nutrition must proceed at a faster rate than in the past decade. Food trade and food aid will likely continue to make important contributions to diet improvement, as

well as economic development. However, the food needs must be filled largely within each country itself.

Most less-developed countries have the potential for increasing food production sufficiently, or improving their ability to buy food, to ensure enough food in the future to feed the rapidly expanding population at acceptable levels of nutrition. Even if production does not accelerate in the IDC's, there is sufficient capacity in the developed countries that the world is not going to run out of food in the foreseeable future.

There is an improved climate for agricultural development in the less-developed countries. This new attitude, along with new, high-yielding varieties of wheat and rice and greater availability of fertilizer, is a bright new hope for much of the hungry world. However, as great as these developments are, they are not the total solution to the world food problem. Much must still be done before an acceptable level of food supplies will be assured for the majority of the human race.

American food grains will continue to play an important role in feeding hungry people in the developing countries until they are able to provide for themselves. Thus, food aid will remain an important part of our export program for some years to come.

During the next 5 years, U.S. food grain exports should continue at about the same level as in recent years with reductions in food aid to the IDC's and commercial wheat sales to Europe being replaced by increased sales of rice and wheat to developing countries experiencing rapid economic growth and more wheat to Japan.

Table 1.--United States: Wheat exports, fiscal years 1964 to 1968
and projected 1973/74 1/

Destination by region	1963/64	1964/65	1965/66	1966/67	1967/68 <u>1/</u>	1973/74 <u>2/</u>
----- Million metric tons -----						
Wheat and Flour:						
Western Europe.....	3.3	1.4	3.4	2.8	2.0	2.5
Eastern Europe & USSR.....	3.5	1.2	1.6	.5	.3	.5
Japan.....	2.0	1.7	1.9	2.1	2.2	2.5
Other East Asia.....	1.4	1.3	1.7	2.1	2.4	4.6
South Asia.....	6.2	7.7	8.1	5.2	8.0	4.5
Africa & West Asia....	4.0	3.6	4.1	4.2	2.2	2.9
Latin America.....	2.7	2.4	2.6	3.1	3.3	4.0
Total.....	23.1	19.3	23.4	20.0	20.4	21.5

1/ Includes flour in wheat equivalent; excludes products.

2/ Preliminary.

Source: U.S. Department of Agriculture, FAS, World Agricultural Production and Trade, August 1965, 1966, and 1968, for historical data.

Table 2.--United States: Rice exports, calendar years 1963 to 1967
and projected 1974

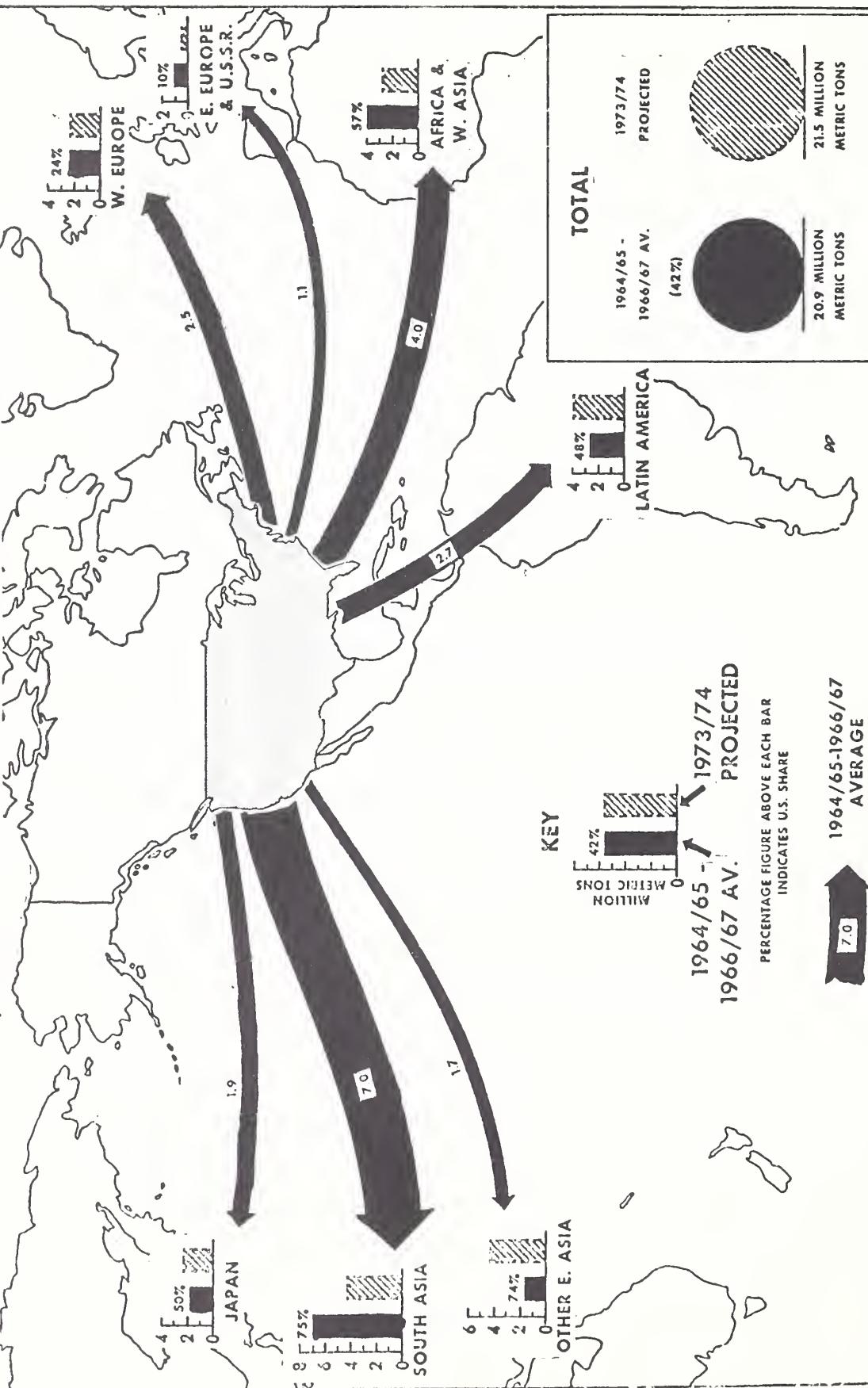
Destination by region	1963	1964	1965	1966	1967 <u>1/</u>	1974
----- 1,000 metric tons -----						
Western Europe.....	158	171	128	178	211	290
Eastern Europe & USSR..	4	77	---	---	20	20
Japan.....	1	105	303	103	94	50
Other East Asia.....	319	186	333	486	1,019	580
South Asia.....	334	276	220	64	---	300
Africa & West Asia....	257	345	344	365	292	550
Latin America.....	79	126	138	81	104	150
Canada.....	45	42	47	39	46	60
Total.....	1,197	1,328	1,513	1,316	1,786	2,000

1/ Preliminary.

Source: U.S. Bureau of the Census, U.S. Exports (FT-410), for historical data.

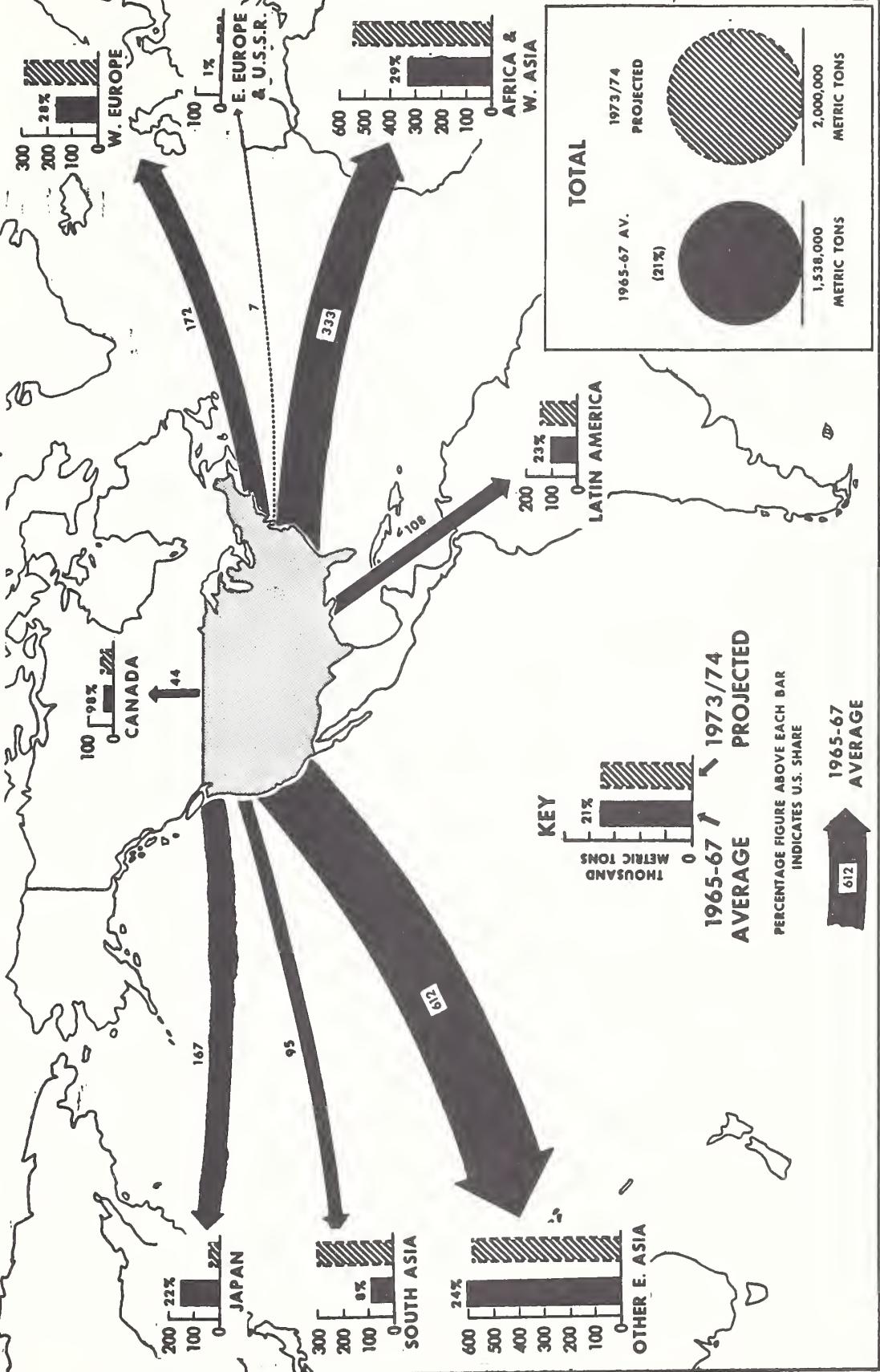
U.S. EXPORTS OF WHEAT AND FLOUR

1964/65 - 1966/67 AV. AND PROJECTED 1973/74



U.S. EXPORTS OF RICE

1965-67 AV. AND PROJECTED 1973/74



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UNITED STATES DEPARTMENT OF AGRICULTURE
Farmers Home Administration

NEW PROGRAMS IN RURAL HOUSING

Talk by Louis D. Malotky
Director, Rural Housing Loan Division
at the 46th National Agriculture Outlook Conference
Washington, D. C., 1:15 p.m., Monday, February 17, 1969

The Housing and Urban Development Act of 1968 reaffirmed the National housing goal that was adopted by the Congress in 1949 of "a decent home and a suitable living environment for every American family." This includes those living in our cities, in small towns, in the open country and on farms.

The 1968 Act in many respects is landmark legislation. Three features of the Act are especially significant to lower income families:

One is the emphasis on homeownership,

Another is adoption of the principle of the Federal Government assisting lower income families in making payments on their home loans, and

A third is recognition in the law that counselling assistance is needed by many lower income families if they are to successfully achieve the goal of homeownership.

My comments will be directed largely toward the housing needs in rural areas and opportunities available to rural families to upgrade the quality of their homes.

The term "rural area" for purposes of this discussion includes farms, open country and towns with populations of not more than 5,500 that are not a part of or closely associated with an urban area. This is the legal concept of a rural area as defined in several of the laws administered by the Farmers Home Administration.

Nationally, this concept includes:

About 30 percent of our population,

One-half of all substandard housing,

Almost half of the Nation's poor, and

About 98 percent of privately owned land.

At first impression, the last point may seem unrelated to housing, but it is significant. Because of the vast geographical area included in rural America, housing is widely dispersed. This influences not only the extent to which private capital is willing to invest in rural homes but also requires that most of the improved housing will need to be provided on a scattered-lot basis or in small subdivisions rather than by large-scale subdivisions and high rise apartments that have provided most of the housing in our cities.

Rural America has more than its share of substandard housing. The need for better housing is great. Today there are some four million housing units in rural areas that need to be replaced or substantially rehabilitated. The statistics on the condition of existing homes do not fully measure the need for more and better housing in rural America. There is an additional demand of sizable proportions from:

Newly formed families who want to live in rural areas,

Families who need to replace homes lost or damaged as a result of fire or natural disaster,

Families who will move from one location to another to seek a better job and a more favorable place to live, and

Families who move from the cities to rural areas.

The inadequacy of rural housing has long been ignored except by the people who are living in it. It has received much less attention than the substandard housing in our cities. One reason is that it usually is hidden from public view.

It is off the beaten tracks in the hinterlands.

It is on the side roads, in the valleys, and in the small towns of Appalachia, in the Ozarks and in the cutover areas of the Midwest.

It is tucked away in areas which we do not see if we fly or if we travel on major highways.

Another contributing factor to the disparity between the quality of urban and rural housing is the inadequate and sporadic flow of housing credit in rural areas. Families who have the greatest difficulty in obtaining adequate housing are the lower income families.

That a housing credit gap of major proportions exists in rural areas is well documented. Studies show that rural residents usually do not have housing credit as readily available to them as do families in larger towns and cities. When it is available the repayment terms are less favorable, the interest rates higher, the loan valuation is lower and the downpayment requirement is greater. All this adds up to a person in a rural area,

especially if he has a low income, of being without a source of credit to buy a decent home of his own or being unable to find a suitable place to rent.

To help meet this widespread need for upgrading the quality of housing in rural areas, the Farmers Home Administration was authorized 20 years ago to start making farm housing loans. The original farm housing program started on a modest scale and has expanded substantially in recent years after it was extended to all rural residents and the method of financing was shifted largely from direct Government funds to private funds insured by the Government.

Several features of the Housing and Urban Development Act of 1968 were specifically designed to help rural families have a decent home. Some were new approaches; others represented significant changes in existing programs.

One of the major new tools available to help lower income families is authorization for the Federal Government to help them meet their mortgage payments. Special assistance of this type is available to rural families from two sources. One is in connection with mortgages insured by the Federal Housing Administration under Section 235 of the Housing and Urban Development Act of 1968. The other is in connection with loans made and insured by the Farmers Home Administration under Title V of the Housing Act of 1949, as amended by the 1968 Act.

The Secretary of HUD has delegated to the Secretary of Agriculture certain responsibilities for Section 235 assistance in rural areas. Briefly, in accordance with an agreement that has been executed by the Secretary of HUD and the Secretary of Agriculture, the Farmers Home Administration will act as the authorized representative of the Federal Housing Administration with respect to mortgages in rural areas insured under Section 235. The Farmers Home Administration's local office will perform essentially the same functions as the Federal Housing Administration's insuring office. We will accept applications from families, realtors, builders or sellers, make preliminary evaluations of the applications, review plans and specifications, and, if the applicant appears to be eligible for Section 235 assistance, refer him to a local approved mortgagee.

If the mortgagee views the application favorably, he will request the Farmers Home Administration to appraise the property. If the applicant and the property are qualified, the Farmers Home Administration will issue the commitment and refer the loan docket to the approved mortgagee for completion of the loan closing. Inspections of construction will also be performed by the Farmers Home Administration.

In addition, the Farmers Home Administration will counsel with applicants regarding type and cost of the home they select, the planning of their budgets with a view to helping them obtain a home that will meet their needs and also fit in their budget. These loans will in other respects be made and serviced the same as other home mortgages insured by the Federal Housing Administration.

The Farmers Home Administration has a housing program designed to help those

families who cannot obtain credit from other sources, including a Federal Housing Administration Section 235 insured mortgage. The primary focus of this program is on single-family dwellings for owner-occupants. Most of the activity has been for low- and moderate-income families; although a limited number of loans are also authorized for families in more comfortable circumstances. Families with above-moderate incomes pay the same rate as they would pay if they obtained Federal Housing Administration insured mortgages.

The interest rate for families with low and moderate incomes is 5 1/8 percent. This phase of our housing program, which is designed to help lower-income families, also was significantly changed by the Housing and Urban Development Act of 1968 by providing for interest credits similar to those available to lower-income families under Section 235. The interest credit program of the Farmers Home Administration will put ownership of an adequate home within the reach of lower-income families by reducing their loan payments. A minimum requirement is that the borrower does not have enough income to pay his loan installments in full, but will be able to pay at least the amount that would be due after a part of the payment is made by the Government. The actual amount that a low-income family will need to pay will depend on its income and the size of the family. The maximum assistance for which any family may qualify is a reduction in the effective interest rate to 1 percent. Interest supplement agreements with borrowers will be made for not more than 2-year periods. These agreements will be adjusted at the end of each 2-year period depending on the changes in the borrower's income and the size of his family.

To illustrate the impact of the rural housing interest credit program, let's assume a \$12,000 rural housing loan. The regular amortized installment for 33 years at 5 1/8 percent interest would be \$761 per year. If the family consists of a husband, wife, and 4 children and has an income of \$4,000 a year, the Government would pay \$332 of the annual installment. The family would need to pay the remaining \$429.

The effect of the contribution by the Government would be the same as if the borrower's income has been increased by the amount of the contribution. This does not change the cost of food, clothing, transportation and other items involved in family living. In fact, if a family moves into a new house, such costs as taxes, insurance, maintenance and furnishings and utilities may actually increase. These are factors that must be kept in mind in evaluating the family's ability to repay the loan.

Another phase of our housing program that is beginning to attract increased interest is multi-family housing. Good rental housing, economically designed and suited to a rural market is an exception rather than the rule in small rural towns. This is a market that has considerable potential. Loans for rental housing can be made to a wide variety of legal entities such as individuals, partnerships, nonprofit organizations and corporations. The interest rate is 5 1/8 percent and repayment period may be up to 50 years.

Nonprofit organizations and cooperatives providing housing for lower-income families may qualify for interest credits, which will have the effect of reducing loan costs to as little as 1 percent interest depending on the incomes

and size of the occupant families.

Experience to date indicates that the market for rental housing in rural areas is somewhat different from the cities. For example, the primary interest in rental housing is from young families or the elderly. Relatively few middle-aged families want to rent apartments in small towns. Generally, the families in these age groups prefer homeownership.

We have found that even though the families have rural backgrounds, they want to live in rental housing in the small towns, and not in the open country. We also have learned the importance of building to suit a relatively inelastic market both in terms of number of units and the amount of rent the families can and are willing to pay. The market is not for large, high-rise apartments, but more likely for from 6 to a dozen well designed units suited to the local needs.

There are several other features in the Housing and Urban Development Act of 1968 that may be of interest.

One is the specific legislation to encourage the development of self-help housing. This is a phase of our housing program that was started several years ago. It is designed to help low-income families reduce the cost of their homes by doing much of the work themselves. Under the mutual self-help method, 6 to 10 families agree to help each other build their homes. This is done with the advice and assistance of our county supervisor and a construction supervisor who works with the families and shows them how to do various phases of construction work. Some jobs such as the electrical and plumbing work may be done by a contractor.

The mutual self-help approach has helped families save from 20 to 25 percent of the cost of their homes. These families would not otherwise have had an opportunity of having a decent home of their own.

The 1968 Act also authorized loans to qualified nonprofit organizations to finance the development of building sites to be sold at cost to families who want to build a home by the self-help method. The Congress has made \$600,000 available for this purpose. This will help solve one of the problems low-income families often face in rural areas; namely, obtaining a satisfactory building site at a reasonable cost.

The 1968 Act also made minor changes to our farm labor housing authorizations. Under this program, loans may be made to farm owners, associations of farmers and other nonprofit organizations to provide housing for farm workers. Loans as well as grants may be made to public bodies and to broadly based nonprofit organizations that will provide the housing as a community service.

Two other new rural housing authorizations were included in the 1968 Act. One would finance housing for rural trainees and the other would provide funds to nonprofit organizations for the organization and administration of mutual self-help housing. Neither of these programs will be operative until they are funded.

During 1968, about \$522 million was advanced under the rural housing program to help about 60,000 families have a decent home. Almost 250,000 families have received rural housing loans since the program started in 1949.

Loan repayments by these families have each year averaged more than the amounts they owed. Delinquencies have been low and losses since the beginning of the program have been less than 2/100 of 1 percent. This is a remarkable record for these families especially since all of them were in such a financial position when they obtained their rural housing loan that they could not obtain credit from other sources.

Those who planned this meeting asked that I indicate what Extension staff members can do at State and local levels to help inadequately housed rural families have a decent home. To begin with, let me tell you what one State Extension Service has done.

As an ongoing housing educational program, they have focused attention on stimulating the interest of families in improving their home conditions and in planning home improvements to fit their needs.

Attention also was given providing local builders an opportunity to increase their knowledge and skill and to update their construction methods. To start this program, a homebuilders short course was given in a selected area. This was done cooperatively by the Extension Service personnel and Farmers Home Administration staff. A mailing list of builders and others connected with the building industry was gathered from Farmers Home Administration and lumbermen. Letters were written to inform them of this educational opportunity. Newspaper publicity was also used. Those who attended the course praised the results.

Two years later, another homebuilder short course was held. About the same time, the University developed several low-cost house plans. These were accepted enthusiastically by local builders.

To help illustrate how some families had improved their living conditions, a set of color slides were made of moderate-cost homes, using University plans, that had been financed by the Farmers Home Administration. These were shown and explained to interested families and builders in several counties. This, too, told the story effectively.

To promote further interest in both rental housing and individual home-ownership, tours of open houses were arranged. Homes that were open to the public featured basic University plans and demonstrated good design at a moderate cost. Each family involved cooperated fully and explained the features of their homes to visitors throughout the afternoon. Builders were also on hand and were kept busy answering questions on construction techniques. Pictures of seven homes that were open appeared in the local papers along with feature stories. The interest shown in this approach demonstrates that it is an effective way of reaching the families who need better housing, interested builders, and the public at large.

In other states, joint agency and local business efforts have resulted in demonstrations of lawn seeding and fertilizing and landscaping. In others, demonstrations in furniture repair and refinishing have demonstrated to lower-income families that they could furnish their homes attractively without buying new furniture.

Families moving from substandard to adequate homes often need advice in the care and maintenance of the walls, floors and equipment in their homes. Advice on maintaining the exterior of these homes as well as planning and planting vegetables and flower gardens also can be helpful.

In closing, I would like to discuss briefly some considerations that apply to the future housing needs in rural areas. There is an increased recognition that some of the problems in our urban ghettos have their origins in rural America. Many persons have moved from the country to the cities in search of better jobs, education, and housing only to be disillusioned. With insufficient resources to move again, they remained stranded in the cities and added to an already difficult problem.

In recent years we have become more and more concerned about where people live. This is a fundamental question that we will continue to face in the future. The extent to which families will stay in rural America is going to be directly related to the quality of life that exists out there, the opportunities for jobs, education, housing and community facilities.

Forms of communities in the future will vary from area to area. In some, the new town concept may be the best approach but, in many it will be the old town revitalized. In these existing towns, shopping facilities, schools, water systems, and sewage systems are already there -- all the community needs is a new lease on life that will provide it an incentive to improve its public facilities and the families who live there an opportunity to improve their incomes and housing.

Attention is being given to restoring and developing opportunities in the country with the objective of giving families who want to stay there a chance to do so. No agency alone can do it. It requires the cooperative work of private industry, local, State and Federal Governments and the people who live in the communities to accomplish this. A start has been made but much more needs to be done.



UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service

NEW APPROACHES TO LOW COST HOUSING

Talk by W. Russell Parker
Agricultural Engineering Research Division
at the 46th National Agricultural Outlook Conference
Washington, D. C., 3 P.M., Monday, February 17, 1969

With the current emphasis and highest priorities being given to housing for low income families, research is needed to provide the essential information to reduce the cost and still improve the quality of the housing and related utilities in the nonmetropolitan areas.

There has been a continuing search for a magical formula, but this is impossible with the varied economics of the areas, the difference in climates, and the indigenous material.

In order to meet these demands, we can no longer plan lavish space use, grand and expensive material. A design must be good but must come from pleasant proportions, color, and good site development. In other words, a new concept of good design must materialize.

Two basic principles are a must to achieve economy in construction:

1. Maximum use of materials selected
2. Full use of all labor involved.

The savings should be started at the planning stage before a block is layed or a board nailed. This can be done by selecting house dimensions that fit the materials selected. There is no substitute for good, clear house plans. The errors are a lot cheaper if they are made on paper and then corrected.

For a family of six or eight we must now think of a house that is perhaps under 800 sq. ft. and that has three bedrooms, a bath, a kitchen, and a dining area and living room. The Forest Service Laboratories at Madison, Wisconsin, have recently developed a house 24 x 32' in size (768 sq. ft.) that should prove to be comfortable living for a family of this size.

In the search for low cost housing, we must not neglect the aspects of expensive maintenance. We can build cheaply; but, if our maintenance is a continuous costly problem, we have gained little. In our recent effort to build economical housing for migrant labor that had to be not only cheap but durable, our research led us into several new approaches in construction that

we feel can be further researched and used economically in other low cost housing construction.

One method of construction technique that is being researched at Athens, Georgia, by two Research Agricultural Engineers, Joe Simons 1/ and Carl Haynes 2/, is surface bonding of concrete block walls to eliminate the use of joint mortar. First the blocks are stacked dry (slide #1), and a surface bonding mix is troweled to both sides of the wall (slide #2). The mix is essentially a cement gravel grout with other ingredients added to improve plasticity, reduce time for setting, and improve water-resistant qualities. Tensil strength is applied by adding to the mix glass fiber (fiber glass) filaments up to 1/2" in length. A very thin coat is applied, 1/16th" or less, so that the material cost is low. With a little experience but with some capability for this type of work, an unskilled person can apply the coating almost as fast as he can paint a similar surface. Even with skilled labor, a saving of about 25% in total cost is possible as compared to conventional block laying because of the reduced labor requirement and lower material cost. Acceptance of this technique by skilled labor is one stumbling block to be overcome. Another outstanding advantage of this technique is that the strength of the joints in flexure and in bonding is several times greater than that of mortar joints. The test beams for the flexural tests were formed by butting two blocks end to end and applying the surface bond coating to both sides. The beams were loaded at third points at 27" span (slide #3). With regular cement, the average modulus of eruption was 34 lbs. psi. Some variation from this value was found when using high early strength cement and white cement. The average value for a beam with regular mortar joint of one to three mix was about 9 lbs. per sq. in. In cases where roof construction, for example, must proceed shortly after the surface bonding is applied, a high early strength cement should be used in the mix. A lintel application is shown in slide #4.

Reducing the calcium chloride from 5 to 2% reduced the modulus of eruption to 20 lbs. psi, or 60% of that attained with 5%. Increasing the calcium stearate from 1 to 3% increased the water resistance from a 4" to an 8" head but reduced the flexural strength about half. Without calcium stearate the coating was not waterproof at a 2" head.

The coating covers all cracks and thus provides a wall that is easily cleaned. Only enough troweling is required to provide a foam block with the block surface and with some glass fiber only partially imbedded. A pleasing surface texture is produced. The use of white cement in the bonding mix will permit the addition of mineral coloring if desired.

Another phase of this work deals with the research and development of thin section concrete reinforced with short steel fibers for possible use in slab concrete floor construction and tilt-up wall panels. Fibers 1" long have been used, and these are added as the concrete is being mixed. When mixed and placed, the fibers will randomly orient. If the fibers could be oriented in the direction of major stress and at such a position in the section as to give maximum strength, this might be desirable. On the other hand, the advantage of using closely spaced randomly oriented fibers is based on the theory of arrest of crack propagation. Cracks normally begin at the point of greatest stress but they will also begin at faults in the concrete. Cracks that may occur are

1/ Research Agricultural Engineer, AERD:ARS, Athens, Georgia
2/ Research Agricultural Engineer, AERD:ARS, Athens, Georgia

limited in length because of the closely spaced, randomly oriented fibers. This is true up to the point at which the stress exceeds the flexural bonding strength of the particular combination of concrete and steel. Addition of the fibers to concrete is much easier and faster and requires less labor than placing conventional reinforcing. The technique does not require skilled labor for mixing but does require normal skill for placing and finishing the slab. Vibration is almost essential in placing the concrete.

Our preliminary research indicates that panels 1" thick may be satisfactory. Sand is used as an aggregate in panels of this thickness. A graded additive would be stronger but would necessitate a smaller size gravel than ordinarily found in some sections and also complicates the action and the mixing of the fibers. With 2% of steel fibers added by volume of mix, preliminary tests have shown that flexural strength can be doubled as compared to nonreinforced concrete. Compressive strength is increased 20 to 33%.

Because the steel fibers are not yet commercially produced, the economics of this type of construction cannot be determined at present. Favorable factors include: (1) the reduced amount of concrete required; (2) the saving in labor of placing reinforcing and handling panels; and (3) the lighter weight of the pretest panels requiring smaller handling equipment and the reduced transportation cost. When these factors are considered, the successful development of such a system seems well within the range of abilities.

Preliminary work is underway in cooperation with the Brookhaven National Laboratory and the Atomic Energy Commission in exploring the possibilities of polymerized concrete. The concrete is treated with a monomer and then irradiated with nuclear energy thus producing a polymerized concrete. Polymerization can be accomplished with steam heating over a longer period of time. Preliminary tests we have made indicate that flexural strength can be almost tripled as compared to untreated concrete. Compressive strength was increased to over four times that of a similar mix not treated. Compressive strengths at failure have run as high as 23,000 pounds psi, which is nine times the strength of concrete normally purchased commercially for house foundations, floors, and the like.

Here again the economics of the process cannot be determined at present, but it is not difficult to imagine the tremendous possibilities that exist in the application of such a development.

Lightweight panels are under study. These consist of 2 inch thick polystyrene slabs with expanded metal lath embedded in both faces of the slab and covered with the cement surface bond coating. Preliminary tests indicate an ultimate flexural strength, uniformly loaded, of over 600 psi, somewhat higher than that for the nonreinforced concrete slab 1" thick. As a column, failure in compression has occurred at about 80 psi. The panels weigh only about 1 3/4 psf. This system might be most useful in prefabricated utility bathroom and kitchen core units.

With proper mechanization of the various systems now under study, we believe that we can make a significant contribution towards reducing cost and improving structural qualities of housing. These new systems should be adaptable not only to low-income housing but also to housing for the more affluent sector of our population.

At Beltsville, Maryland, one of our Division's research endeavors is being continued. This is the underfloor plenum-peripheral slot-heating system developed by Jerry Newman 3/. In this system the crawl space beneath the floor becomes a plenum. Heat may be supplied to the house by a low cost circulating heater, but other types of heaters may be used. Preferably, the heater should be located near the center of the house; but this location also is not critical. A fan mounted in a centrally located vertical duct pulls heated air from near the ceiling and forces it into the plenum space (slide #5). In new construction, a continuous slot is provided around the entire periphery of the house adjacent to the walls. The hot air supplied by the heater, which normally collects near the ceiling, is mixed with the warm air from other parts of the house and flows slowly with uniform temperature up through the slots in the various rooms.

Drafts are virtually eliminated because of the even distribution of air around the room and the low air velocity. The warm air sweeping up along the wall maintains a higher wall surface temperature, than other conventional methods thus improving body comfort. The positive circulation reduces temperature differentials from floor to ceiling, and adds further to comfort. Because no registers or radiators are involved, all floor space can be fully utilized.

The system has been adapted for use in an existing house by boring holes through the floor at frequent intervals adjacent to the baseboard and blocking up the shoe mold or quarter round to allow air discharge. Experiments are underway to determine whether the system can be adapted successfully to a house with a basement and for use in two-story houses.

Research is underway at various state experiment stations in the Southeast on various phases of low-cost housing under the new Southern Regional project S-66. It is hoped that some worthwhile solutions to this problem will result from these research efforts.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

RURAL CHANGE IN THE 1960's

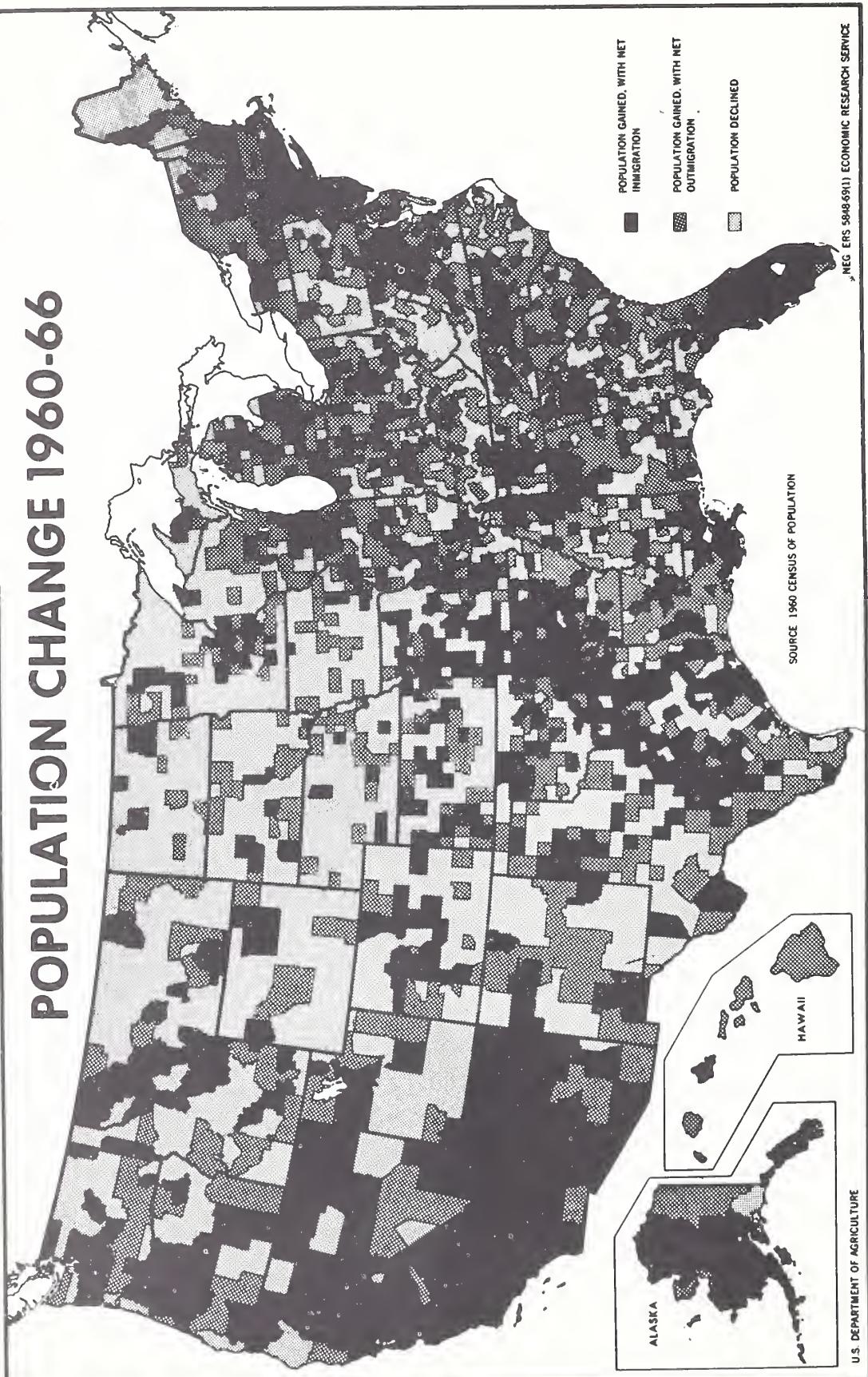
Talk by Clark Edwards and Calvin L. Beale
Economic Development Division

at the 46th National Agricultural Outlook Conference
Washington, D.C., 9:15 A.M., Tuesday, February 18, 1969

Rural and semirural counties have grown faster than metropolitan ones so far during the 1960's. This nice-sounding lead is a true reflection of the aggregative statistics. But it covers up a lot of valuable information. It does not tell us which rural people are living in areas of relatively high economic development. It does not tell us which rural areas are growing fastest. And it covers up a lot of problems. These problems relate to continued poverty in rural areas, to a lower general level of income in rural compared to metropolitan areas, and to vast areas which may be fairly characterized as slower-growing, lower-income regions.

Our look at the variations in economic activity is made in four steps. (1) We describe the economic situation with respect to slower-growing, lower-income counties as of 1960, and we point to some of the causes in these variations. (2) We then examine changes since 1960 by relying on selected recently available, statistical series. We compare changes in workers who are covered by social security programs, 1962-67, to pick out gains in nonfarm job opportunities in rural and semirural counties. (3) We compare shifts in the value of farm sales, 1959-64, to discover which areas are gaining and which are losing in relative shares of the total agricultural industry. (4) And we compare changes in population, 1960-66, to see which counties are growing faster than would be suggested by natural increase and which slower.

POPULATION CHANGE 1960-66



Summary and Highlights

From 1962 to 1967, about half the rural counties added at least enough private nonfarm jobs covered by social security to offset losses of farm jobs. Yet the geographic distribution of levels of economic activity and rates of change are uneven. Regional variations in the symptoms and causes of economic problems point to a probable need for special regional adaptations of public and private programs and policies to deal with these problems.

The industrial north is one of two major strips displaying a more highly developed general level of business activity than the average for the country. Further gains in job opportunities and continued decentralization are resulting in substantial gains in nonfarm job opportunities in the few rural and semirural counties scattered through the region. Agriculture in this region, particularly in the eastern part, is losing some of its share of the total agricultural industry.

The metropolitan west coast is the other major strip displaying a more highly developed general level of business activity. In comparison, other places with high level of income and output in central and southern places appear as scattered islands. Growth on the west coast is mainly metropolitan. It is not leading to a significant number of nonfarm job opportunities in nearby rural and semirural counties. Agriculture in the area is growing rapidly, however, and is increasing its share of the national agricultural industry.

The industrializing upper south begins with a level of general business activity below the average for the Nation. It has a large share of its labor force in manufacturing, and growth in the area is leading to rapid gains in nonfarm job opportunities for residents of rural and semirural counties as an alternative to outmigration. In addition, agriculture in the area is gaining a larger share of the total agricultural industry.

Much of the rest of the country has a lower level of income, is growing more slowly in terms of nonfarm job opportunities, and is reducing its share in the total agricultural industry. Population shifts point to a general outmigration from these areas. They extend from the central Appalachian counties westward through the Ozarks and then fan out to include large portions of the plains and mountainous states and also to part of the lower south and the cut-over west of the Great Lakes.

Most counties were slow-growing, low-income places in 1960.

We have around 3,000 counties in the United States. In 1960, three-fourths of these governmental units were slower-growing, low-income places. That is, these counties had per capita incomes below the U.S. average and population increases of less than the U.S. average, if not population losses. These slower-growing, low-income counties cover two-thirds of the land area of the United States and contain one-third of the people. They are sparsely populated and contain only one-fifth of the urban residents.

On average, these counties lost nearly 1 percent of their population each year from 1950 to 1960. This rate is indicative of rapid outmigration. With slightly less than average participation in the labor force, people in these counties held 30 percent of the jobs in 1960. These jobs tended to be lower paying, and accounted for only one-fourth of the aggregate income. These slower-growing, low-income counties contained nearly half of the United States families with incomes under \$3,000 in 1960.

Economic problems resulted from either limited productivity of labor or from limited demands for available labor.

The lower incomes in these counties were partly due to lower educational attainment. The one-third of the United States population living there had only one-fourth of the high school diplomas. Area incomes were lower partly because many potentially higher-wage earners of working age had migrated to find better jobs. Fifty-two percent of the population in these counties was either over 65 or under 21, compared with only 49 percent for the Nation as a whole.

Lower county incomes were also due to lack of job opportunities. Four out of five of the 3,000 counties in the United States have underemployed labor forces--capable of providing more economic output and earning higher incomes. This estimate is based on a recent study by the Economic Research Service in which earnings of county labor forces were adjusted for variations due to education and age distribution. ^{1/} These counties tend to be the slower growing, low income areas with which we are concerned.

^{1/} Robert Glasgow, Economic Research Service, U.S. Department of Agriculture. Manuscript in process.

Half the rural and semirural counties participated in the general economic expansion of the U.S. economy during the 1960's.

Two out of three of our 3,000 counties were classified as rural or semi-rural (nonmetropolitan counties wherein the largest urban place contained fewer than 10,000 persons in 1960) in a recent Economic Research Service study. ^{2/} Economic growth patterns during the 1960's were estimated from county reports of private workers covered under the social security program. Using this classification, about half of our rural and semirural counties appeared to be sharing in the general economic expansion during 1962-67. That is, half were gaining enough private, nonfarm jobs to offset likely declines in farm labor requirements. In general, this growth appeared to be correlated to size of urban place within the county, but not so much to proximity to a major urban or metropolitan county. That is, growth appeared equally likely in counties that were contiguous to metropolitan areas and to those that were somewhat isolated. But the several counties with decreases in employment over the period tended to be rural and isolated.

Most added nonfarm jobs were in the upper south.

Rural and semirural counties grew at a faster pace in the south than in the rest of the Nation. Agriculture in this area was gaining a larger share of the total value of farm sales. Growth was from a lower initial level of business activity. Growth was pervasive; about two-thirds of the rural and semirural counties exhibited moderate to major gains in new, nonfarm job opportunities. Growth tended to be faster if the semirural county contained a larger urban place whether or not it was near a metropolitan place.

Moderate to major gains in nonfarm job opportunities were recorded in most of the rural and semirural counties in the northeast. This was a highly developed, urban/industrial area to start with. It's few dozen rural and semirural counties were relatively densely populated. So the gains did not add up to much in percentage terms. It is hard to say whether the gains were in some sense caused by the nearness to metropolitan places, or whether this association was accidental. Agriculture in this industrial belt was losing some of it's relative share of the total industry value of sales.

About half of the northcentral counties reported moderate to major gains in nonfarm jobs and much of this activity appeared to be urban-related. But in the west, only one-third of the rural counties were growing much even though many major urban and metropolitan areas grew sharply during the period.

^{2/} Claude Haren, Economic Research Service, U.S. Department of Agriculture. Manuscript in process.

Manufacturing jobs were important in the growth process.

For the United States as a whole, around 40 percent of employment covered by social security is in manufacturing. The percent of the labor force in manufacturing is even higher in the two areas where rural job expansion was stronger--in the industrial north and through the upper, industrializing south. Thus, it is not surprising that about half of the added jobs in rural and semirural counties were in the manufacturing sector. This sector grew more rapidly in the rural areas than the service sectors. Employment gains in sales, or trade establishments, was particularly sluggish. This suggests that merely adding more manufacturing jobs does not necessarily multiply into additional service job opportunities. This may be so first because a large share of workers were already employed in retail trade, and second because of the possibility of becoming more dependent on urban centers for wholesale, financial, transportation, and other services required by an expanding manufacturing sector.

The 50 largest manufacturing companies in 1963 controlled 1 percent of the establishments, employed around 20 percent of the workers, and paid out about 25 percent of the wages and salaries. Thus, the more concentrated industries with larger firms offering higher wages were located mostly in the larger, metropolitan labor markets. Much of the growth in rural-located manufacturing employment during 1962-67, on the other hand, tended to be in the less concentrated industries such as textiles, apparel, and sawmills. These were generally smaller firms, using lower-skilled occupations, and paying generally lower wages. In some rural and semirural growth areas, new plant additions and expansions involved large investments per plant and per worker, plants were relatively large scale, paid above-average wages and had a high level of output per worker. In many other parts of rural America, it appears that hopes for growth were attached to industries which tended to have smaller firms, lower skill requirements, lower wages, and perhaps produced products of relatively declining importance in the national economy.

Agriculture in the south and far west gained a larger share.

The value of all farm products sold rose around 3 percent per year during 1959-64. The rise was generally a little faster for crops than for livestock and products; however, within the livestock sector, sales of poultry and products, particularly broilers, rose sharply. Consequently, areas with heavy commitments in agriculture to field crops, fruits and vegetables, and/or poultry and products were likely to have a more rapidly growing agriculture than areas depending more on beef and dairy or on some forestry and horticultural products.

A recent study by the Economic Research Service ^{3/} shows that agriculture in the southern States from Arkansas and Louisiana across to the Atlantic seaboard was growing faster than in the Nation as a whole. This was so not only because of a combination of commodities favoring rapid growth but also due to increases in the state shares beyond what can be explained merely by associating state growth with increases in the national output and in each commodity. All of these Southern States reported gains in sales of poultry and products above what would be expected from national trends evidencing substantial effort of growers to expand volume. Each of these states showed marked local advances in some crop; but the crop varied among the States from corn and soybeans to cotton to fruits and vegetables. The study also shows above average gains in agriculture in States of Arizona and California, in North Dakota (wheat), and in Michigan (dairy and field crops).

Two general regions in the United States were, while growing absolutely in volume of sales in agriculture, declining in their share of the Nation's total. They were declining not only because of an unfavorable mixture of slower growing commodities but also because they were losing ground relative to what might be expected if the regional growth followed national trends. One of these regions stretches through the west from Missouri out to Nevada and from Oklahoma up to Montana. The other blankets an area in the northeast from New England down to Virginia. The former region is accompanied by continued out-migration, the latter by expanding nonfarm job opportunities.

Employment in agriculture continued to decrease in all regions.

For all regions, while the value of farm products sold increased 3 percent per year during 1959-64, the number of farms declined 3 percent per year, and agriculture continued to release labor for nonfarm employment. This release of labor from agriculture occurred in all parts of the country whether rural or urban, declining or growing, poor or rich. In growing areas, where there was sufficient expansion in nonfarm jobs to employ (at least in a net sense and over a radius including a few neighboring counties) those who are leaving agriculture, farmers were getting out of agriculture more slowly than the national average. On the other hand, workers were leaving agriculture faster in declining areas and when they left the farm they tended to migrate out to another community where there were more prospects of successful participation in the nonfarm labor force.

^{3/} Robert Coltrane, Economic Research Service, U.S. Department of Agriculture. Manuscript in process.

There has been a slowdown in the national rate of population growth.

Let's turn now to a subject that interests us all--people. What have the key features of population that relate to these changing economic conditions?

On the subject of U.S. population trends, probably the most important single fact to demographers in the 1960's has been the slowing of growth caused by a decline in the number of births. But, judging from the inquiries we receive from the public, the greatest public interest may be in rural-urban migration.

Let's discuss the birth rate and national growth first. From the middle 1950's through 1961, the annual increase in U.S. population was remarkably stable, at about 3 million persons a year. Since then, the amount of growth has fallen each year, and in 1968 amounted to only 2 million. Thus, the absolute rate of U.S. population growth has been cut by a third in 7 years time, and the percentage rate of growth is down by about 40 percent.

The drop in the crude birth rate has not reached a point of serious concern, for the fertility of the population is still more than ample for replacement. Our population growth is coming in cycles because of the ability and propensity of couples to alter the timing of marriage and childbearing, and because birth cycles -- once started -- engender future cycles. In the thirties we had an extended period of deferment of births. In the forties and most of the fifties, the country experienced a making-up of deferred births, plus an advancing of other births, largely through a lowered age at marriage. There was also some real increase in completed family size. Now the making-up and advancing are finished and the age of marriage has risen slightly. Further, we have a transition to more effective contraceptive methods. But the number of marriages is now rising steadily as the post-World War II babies come of age, and through sheer force of the numbers of young married couples, births should begin to rise again in a year or two. Meanwhile the recent and current lowered fertility will soon bring the country some breathing room in such areas as the need for more school facilities, and later in the need for job openings for young adults. Of course, business firms that market to children and youth will not regard this trend so sanguinely.

The drop in number of births has affected every State. In general, it has been greatest in the south, the midwest, and the northwest, and least in the northeast. The drop has been somewhat greater in nonmetro territory (which is primarily rural) than in metro areas. In a broad area of the prairies and central plains (Minnesota, Iowa, the Dakotas, Nebraska, Kansas, and Montana) births in nonmetro territory dropped by an average of 28 percent from 1960 to 1966, creating a rapid undercutting of the rural age structure.

The peak of agriculturally related outmigration was passed during the 1960's.

The heightened interest in rural-urban migration can be demonstrated by the record of requests for information on the subject handled by ERS's Population Studies Group. Between 1964 and 1968, requests for demographic information other than migration of rural people rose by 12 percent. Requests for migration data rose by 250 percent. Inquiries on this subject from nongovernmental sources were almost nonexistent in the earlier period, but now comprise more than half of the migration service work. The Watts riot in Los Angeles marked the turning point in urban awareness of rural-urban migration, (even though later studies showed the recently migrant population in Watts to be smaller than the popular conception of it).

Ironically the peak of concern over rural-urban migration did not arise until after the peak of agriculturally related outmovement had passed. The farm population in 1960 was just half of its level 20 years earlier, and thus, since at least a few million people will remain permanently on farms, it was obvious even at the beginning of this decade that future rural outmigration associated with changes in agriculture could not equal that of the recent past. But concern over rural-urban migration rose not as migration itself did, but as evidence of the urban consequences of much of the movement has become apparent.

During the 1950-60 decade, a net annual average of 1.0 million persons left farms or became nonfarm through cessation of farming operations on their places. For the period 1960-68, the comparable figure has been 3/4 million. This is still a high percentage rate of loss given the reduced size of the farm population, amounting to a net annual loss through outmigration and reclassification of about 6 percent. There is some evidence that the decline in farm population and employment did slow down between 1967 and 1968.

The decrease in Negro farm residents has been particularly sharp, with the near demise of the cotton tenant system and the failure of most sons of Negro farm owners to follow their fathers occupation. The Negro farm population has declined by nearly three-fifths in just 8 years.

But with the number of farm residents now down to 10.5 million, farm people comprise not more than 20 percent of the total rural population. Thus, decreases in farm population cannot as readily affect the trend of the total rural population in the future as they did in the past. The rural total is now more affected by the combination of such trends as employment in the off-farm phases of agriculture -- e.g. farm supply, farm services, transporting, and processing of food products --mining, lumbering, rurally located manufacturing industries, employment in urban centers within commuting distance of rural people, development of rural recreation and retirement areas, defense spending, and various lesser factors.

County population change correlated with regional changes in jobs and income.

Rural and urban definitions are too complex to apply on a current basis in sample surveys, so we do not have updated estimates of the rural population since the 1960 Census. However, the Bureau of the Census has recently prepared population estimates for all counties for 1966, and by categorizing counties by their degree of rurality at the beginning of the decade it is possible to form some judgements about the recent course of population in areas that are entirely or primarily rural.

The evidence indicates that completely or primarily rural counties did much better as a class in retaining their potential population growth from 1960 to 1966 than they did in the 1950's. In the 1950's the rural counties gained 3.3 million in population while also losing a net of 4.6 million migrants. But from 1960 to 1966, they gained 2.8 million population while their outmigration was reduced to about 550,000 or only a fifth of the annual average of the 1950's. Because of the decline in the birth rate, the growth potential of rural areas was less in the 1960's, but the areas retained the equivalent of a much higher proportion of their growth potential. So despite lower natural increase, rural areas have had a higher population growth rate than formerly. This improvement has been especially noticeable in the entirely rural counties and those with less than 30 percent urban population, where the rate of outmovement was greatest in the 1950's.

Perhaps the most dramatic change in population trend has come in the East South Central States -- Kentucky, Tennessee, Mississippi, and Alabama. These four States embracing both Appalachian heartland, Mississippi Delta, and Black Belt areas--exported a net of 1.5 million migrants from their rural areas in the 1950's, but only 164,000 from 1960 to 1966.

The division that has done least well since 1960 in retaining population in rural areas is the West North Central States -- Minnesota, Iowa, Missouri, the Dakotas, Nebraska, and Kansas. These States have contributed more rural net migration to other areas than any other part of the country in the 1960's -- some 300,000 persons. By contrast, in the 1950's each of the three census divisions of the south had more rural outmigrants than did the West North Central Division. Even so the outflow from the West North Central States is reduced both in number and rate, compared with the 1950's.

To illustrate recent regional differences in population change more readily, a map has been prepared that divides the counties of the Nation into three categories: (1) counties that have grown in population from net immigration of people, as well as from such excess of birth over deaths as they may have, (2) counties that increased in population but had some net outmigration to other areas, and (3) counties that declined in total population. This map is shown in the printed text of the paper.

The growth rates of counties having immigration vary substantially, but given the close association of economic and population development, most of these areas can be said to have generated more employment in recent years than the local labor force could handle. Much of the Atlantic Metropolitan Belt, from Richmond to Boston, is evident in this respect, but is largely urban in character. There are many essentially rural counties, however, in the Southern Piedmont, the middle Tennessee Valley, eastern Oklahoma, and northern and western Arkansas, where net immigration has occurred. Many of these had substantial loss of population in the 1950's. The broadest areas of immigration are found in the far west, usually in a continuation of past patterns.

At the other extreme are counties that have declined in population. There are about 1,100 of them or more than a third of all counties, but this is an improvement over the 1950's when 1,500 counties decreased. The heavy concentration of these counties is in the center of the country.

In the east, the core of the Appalachians is still visible as a declining region, and there are many losers still in the Southern Coastal Plain, where there is insufficient industry to absorb continued losses from agriculture. But these areas are small in square miles in comparison with a vast region extending from the Rio Grande at about Del Rio, Texas northeastward to the Upper Peninsula of Michigan, west along the Canadian Border to central Washington, and then southeastward to the Rio Grande again. In this more sparsely populated territory, involving a third of the land surface of the country, the great majority of counties, especially outside of the metro areas, are still in a state of population decline. These declines are occurring on community structures that are already affected by past outmigration, and on local population bases and governmental units that are already small both in total size and in density. The population losses in this large area seem to be associated with such features as the continental climate, the increasingly extensive nature of much of the agriculture, the relative dearth of population centers and markets, the predominant lack of timber resources, and the lack of navigable water.

State estimates, which are available for years later than 1966, indicate that seven States actually declined in total population from 1967 to 1968 because of the combination of reduced births and continued outmigration. Five of these form a huge contiguous block of already sparsely inhabited territory in the Northern Plains -- the Dakotas, Nebraska, Wyoming, and Montana. The others -- West Virginia and Maine -- are heavily rural but not basically agricultural.

Past migration affects future growth prospects of counties.

Where outmigration has been prolonged and the local population does not have large numbers of children per family, the average age of the population has risen rapidly. The married couples remaining are not numerous enough to offset with their births all of the deaths occurring to the more numerous older population. A so-called "natural decrease" of population through an excess of deaths over births is the result. Some years ago, Beale noted in an outlook paper here that there were 33 counties in the Nation in 1959 that had more deaths than births. By 1966 -- the last data year available -- the number of such counties had grown to 300, and may well rise to 600 by 1970. Most of the affected counties are in the southern Corn Belt and Texas.

Such counties are typically very short of labor force of less than 45 years of age and unable to sustain significant economic development without importation of workers. Elsewhere, particularly in the southern coal fields, in predominantly Negro counties of the southern coastal plain, and in Mexican-American, American Indian, and Mormon areas of the West are many other rural counties with a very young age structure. Despite the outmigration, the population base has been supported by higher than average childbearing. These counties have a good supply of very young workers, heavy pressure on the available number of jobs, and require above-average rates of economic development if they are to retain more of their potential population growth in the future.

To summarize, demographic conditions in rural areas vary substantially from one part of the country to another. There simply is no national generalization that is uniformly applicable to the status and trends of rural population except this one! Many areas have seen an improvement in their demographic picture since 1960, through increased ability to retain population. But others have not. The major problem populations of rural America as measured by such factors as income, housing, education, and disadvantageous ethnic or cultural minority status are still predominantly in the South. But the major problem rural areas as measured by recent population loss and migration trends are now in the Central Plains and Mountain West.

Implications

As we expand and improve our public and private economic development programs, regional variations in economic conditions become just as important as central tendencies. Various regions of our economy are growing in different ways and from different causes. Low-income problems in growing areas respond to different stimuli than those in areas of declining population. Growth is best stimulated by different programs if the initial level of development and income is high or low. Added demand for jobs in areas of underemployment and idle labor force can result in increased output and income per capita. However, if the low income is the consequence of a county labor which, while being used at capacity, has a low level productivity due to lower levels of

education and to outmigration of working age adults, the same programs may lead to increased business failures. Programs to support sales by firms dealing in specific products help those who produce the product in volume, but they do not help those in the same industry producing other products or those with smaller volumes of sales. Programs to subsidize plant and equipment in low-income areas are sure to bring in new buildings and machines, but they may or may not bring the kind of jobs needed for balanced, sustainable growth. And program objectives vary from one region to another: some policies may be directed toward stabilizing a declining population; in another to help relocate families; and in yet another to build a metropolitan center in a sparsely populated county.

Planning at the multicounty and the multistate level, with public and private interests represented, can find solutions to problems that are beyond control of an individual firm or household yet not of uniformly national scope. Dealing with these variations in problems at a regional level can promote area growth, help bring about new development, and provide an environment in which rural people in slower growing and declining areas can also find economic opportunity.







UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

RURAL CHANGE -- PERSPECTIVES FOR THE 1970's

Talk by John H. Southern
Economic Development Division
at the 46th National Agricultural Outlook Conference
Washington, D.C., 9:45 A.M., Tuesday, February 18, 1969

1969 -- The year from which we enter the 1970's. In terms of rural dynamics, we will not be able to perceive any differences as one decade meshes into another. However, the dynamics of the 1960's have set the direction and the course of much of the 1970's. The existing and emerging dynamics of this decade will be the constraints of tomorrow. Many of you may recall that some business analysts began the current decade by referring to it as the "Soaring Sixties." As an initial viewpoint, and taking current conditions into account, we might tag the next 10 years as the "Sobering Seventies."

This attempt to detail the perspectives of the Seventies is not to be interpreted as offering projections. The exactness of numbers, the magnitude and dimensions of changes underway, or in the offing, are not emphasized. Our interest is more in the nature of discussion and thought from a particular standpoint about things that are in being, or in prospect. These flow from a viewpoint of relationships among factors and their relative importance in setting the pattern for the next decade.

Whether or not this decade has been soaring depends upon where one sits. The promise and the bloom of the period have become rather jaded as we approach the next decade. Many of the rural people who had few resources at the beginning are actually worse off relatively as we leave the Sixties. Yet we do know that in the aggregate, much of the promise was more than fulfilled. The Gross National Product for the decade will have had real growth of some 50 percent; about 10 million new workers have entered the labor force, and 14 million more jobs have been added. Unemployment has dropped to below 4 percent of the total labor force. The massive spillover effects of this expansion in GNP and employment have been of special significance to rural America, as described by the previous speaker.

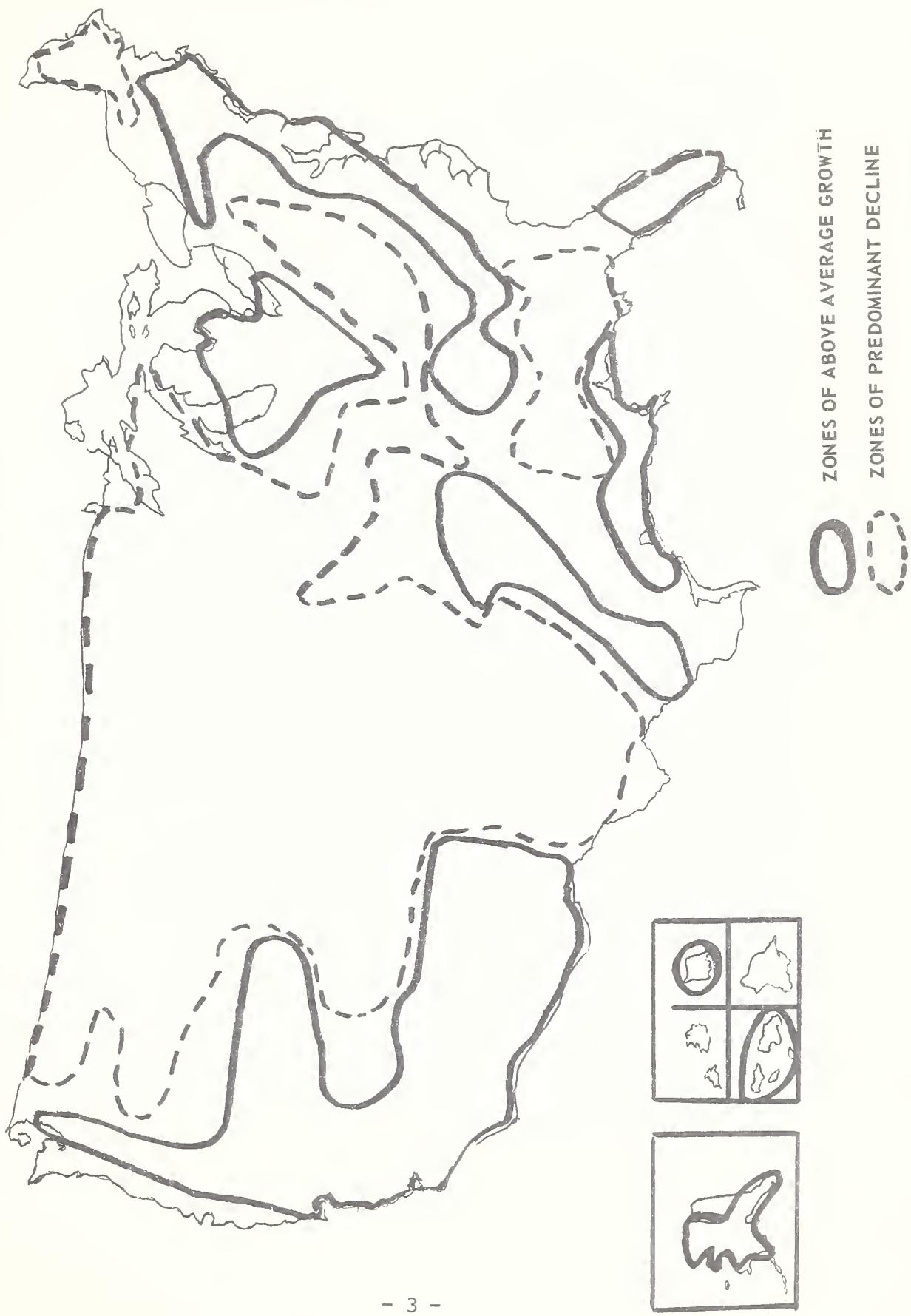
Let me repeat some summary points for the Sixties as a take-off for our look at the 1970's:

- (a) The rate of decline in the farm population continued through most of this decade with some apparent slowdown in 1967-68.
- (b) The loss of total population through migration from rural-semirural areas slowed greatly in this decade, with considerable regional variation, however. Some 1,000 counties, mostly rural, still declined in total population because of outmigration (Figure 1).
- (c) Nearly 700 rural-semirural counties gained over 500 nonfarm jobs each, with about 300 of these counties increasing jobs by 1,000 or more, 1962-67. About 1,000 counties had slow growth or declined; 268 counties actually lost jobs during this period.
- (d) Jobs for the rural labor force increased more rapidly in areas near the North-Northeast industrial complexes and in the South than elsewhere. Little or no growth was exhibited in most of the rural counties of the Inter-Mountain, Great Plains, Ozarks, and Appalachian Regions.
- (e) A major characteristic of employment growth in rural-semirural counties was that nonfarm employment just about offset declines in farm employment. However, nonfarm job growth and farm employment losses were not necessarily found together in the same regions.

Additional elaboration of change in the 1960's is needed before one looks at the Seventies.

First are the dynamics of national and regional growth, the location of economic activity and consequently where people work and live. We said in an address before the Agricultural Outlook Conference in 1964 that "It is imperative to realize that two problems of growth and development are highly interrelated, or perhaps are even the same. On the one hand is the economic backwardness and lag of broad regions and their literal depopulation. On the other is the agglomeration of economic opportunity and the piling up of masses of population in a few limited spaces. These are the opposite sides of the same coin. Each exhibits its ugliness, and each is involved in the basic issue. The problems of one are so intertwined with the other that the basic solution approaches

Figure 1 – RURAL POPULATION CHANGE, 1960–1966



each." 1/ Through this 10 years, many public and private persons have emphasized these relationships. As we leave the decade, President Nixon, in remarks to employees of the Department of Agriculture, recently said; "the problems of rural America today will be the problems of urban America tomorrow." In the dynamics of change of the Sixties, we see a growing realization of the real interdependence in our total economy and society.

Second, a major feature of change has resulted from the impact of government programs. These have had negative as well as positive results.

Several policy and program measures, having a wide range of objectives, were initiated and operated with varying degrees of success. As examples, we need only to mention that farm programs of this period were highly volatile for bringing about change, not only for the farm plant itself, but also for the population associated with the industry. The 4-year farm program initiated in 1965, in a very short period of time, sharply reduced farm employment requirements, inducing heavy unemployment and consequent geographic movement of people. Furthermore, these programs introduced one of the most highly regressive system of income payments ever experienced in the history of farm programs. Support and diversion payments to retire land pushed the smaller and middle operators farther behind in the struggle for labor returns and technological adjustment. When one examines the payment schedules there is no need for complex, drawn out analysis, but one such study concluded "that labor returns were what they would have been without these programs." 2/ Thus, in the latter half of the decade one of the most potent forces for change among particular regions and groups of operators was that of payments which gave only 2.5 percent of the money to 42 percent of the operators and at the same time gave 29 percent of the money to 2 percent of the operators. The result was much greater income disparity among farmers themselves.

Close on the heels of these programs was the introduction of minimum wages to limited numbers of the farm labor force, adding another inducement to the funneling of manpower either to

1/ Southern, John H., "Regional Growth and Development and Rural Areas," a talk at the 42nd Annual Agricultural Outlook Conference, Washington, D.C., November 17, 1964.

2/ J. L. Hedrick, G. S. Tolley, and W. B. Back, "Effects of Flue-Cured Tobacco Programs on Returns to Land and Labor," ERS-379, Economic Research Service, USDA, in cooperation with North Carolina Agricultural Experiment Station.

unemployment or to geographic migration streams. Other government policy and program measures introduced further dynamic change through heavy inputs into education, housing, manpower retraining and various other human investments, attempting to deal with the manifestations of low-income conditions and the paucity of facilities and amenities among the rural population.

The Seventies

Now for a look at the Seventies. In the broad perspective, defined as our approach, this look will include agriculture, rural development, and population movements.

Agriculture: In some respects we can expect a decided continuation of what has been evolving in the past decade. Although the major impact of technological change on labor requirements has probably occurred, we see a continuous decline in the use of labor of nearly one-third in the Seventies. During this period ahead, it is highly likely that the remaining single crop requiring large quantities of labor -- tobacco -- will undergo fairly complete mechanization. This will have serious consequences for the rural population and rural institutions in about 300 counties of the Southeast. Large numbers of poorly qualified, immobile people will be added to the burdens of that region -- in the absence of any positive policy. Further mechanization of vegetable and fruit crops will proceed, as mechanical gadgets have advanced to the point where almost any operation can be performed by machines when the time is appropriate for their adoption. In terms of a national policy objective, and considering the advancing technology of production, we can look forward to the elimination of most of the migratory labor with its associated ugliness.

Structurally, the farm production plant will be assimilated into larger units as economies of scale certainly have not as yet been realized. The capital needs of agriculture will have a determinant role in further change, pressing toward economies of capital management rather than toward technological adjustments of the past. Computerization of management information, currently involving the efforts of some of you, introduces a new level of scale in the farm production plant. This analytical approach to management and management decisions moves inexorably toward a larger scale which challenges past and current ideas of size efficiency. Nothing is gained by too much speculation on numbers of farms in the Seventies, but one would have to be very optimistic to think of more than one-half to two-thirds of the current number of farms by the end of the decade.

These continuing dynamics of agriculture have considerable significance not yet realized in sector and policy considerations. Agriculture, from production on the farm through all other phases, is now in the process of "industrialization." It has taken on such characteristics of nonfarm industry as specialization, standardization of product, and the separation of functions of ownership, financing, management and labor. Nearly all technological change is pressing in this direction. When one adds the pressure and impetus of farm programs described above, the process is speeded up and needed adjustments must come faster. The Seventies will see a continuation of this industrialization process with all its implications.

Rural Development: The dimensions and direction of this subject are more difficult to examine and evaluate than are the changes one can speculate about in agriculture. The large research and informational base in agriculture furnishes realistic insights so that perceptions can be fairly well outlined. Economic development is a subject area not yet well defined and not well documented by a concerted research and informational base. However, several reasonable statements might be made about the next few years.

In a major sense, a dispersion of job growth has been occurring with favorable results for several regions, as mentioned by the previous speaker. Undoubtedly, this has occurred under the impetus of a rapidly growing economy which serves as a generator of growth in many peripheral areas. It cannot be emphasized too much that a national growth environment must exist in order for rural areas to grow at all. Thus, growth of the total economy has been the chief factor in dispersed economic growth rather than decentralization of the economy. The situation in the past few years, when nonfarm employment growth just about offset the decline in agricultural employment is of considerable significance in essentially rural counties.

Attempting to say what might be is rather hazardous at this time. Macro-policy is now oriented toward slowing down the economic engine. Small cities and their rural manpower reservoirs are in a precarious position in that much of their growth probably will be first to feel the serious impact of economic slowdown. An economy that is shrinking in a growth sense, that is, disemploying people, is not likely to reach into small cities and towns with new investments, plants and facility establishments. In the absence of any positive offsetting policy, we would expect that rural areas and their labor force will have a declining relative share of growth. If this decline does not occur it would signal a real change in industrial relocation and decentralization.

In economic development, as in agriculture, economies of scale also will enter the picture in the Seventies. Rural areas and cities, as we all know, have developed unevenly. Some are depressed while others have experienced growth. Some have contributed to the so-called "urban crisis" while others have either held their own or increased their economic activity. Observed trends of the 1950's and 1960's provide a valuable clue to prospective developments with respect to size and type of communities. "Too big" is as much a scale problem as "too little."

One observation of major importance to future development is the necessity to consider the regional variation in rates of past growth and the reasons for growth in some areas at the same time other regions have been declining. It is well known that mechanized agricultural areas, coal mining and forestry regions have lost population rapidly. While proximity to metropolitan centers generally has slowed down population loss in adjacent rural areas, there has been rapid growth in California, Arizona, Florida, and the Gulf Coast region in all classes of towns and cities as well as in rural areas. Where the economic base offers job opportunity, the rural population will remain stable or will increase.

In the rural areas where this kind of sound economic base does not already exist, small cities and associated areas might be revitalized through the inducement of industry, creation of recreational enterprises, or installations of educational institutions, training of the local labor supply, and cultural amenities to make the new or renewed locations attractive.

The regional aspect of promoting rural development must come as a national decision to regard the matter of optimum city size as flexible and varying with location and function of the center to be developed. Based on observations of past performance, no one particular size of city is optimal for all purposes. Growth has occurred in towns and cities varying in size all the way from 10,000 and smaller to 1,000,000 population. More important for potential growth than specific numbers of people will be: diversified economic functions, viable local government and other institutions, adequate housing and highways, and possibly, proximity to larger centers of population. Other considerations will include economies of scale in relation to other centers in the region, opportunity for people at all income and skill levels to form a community, and flexibility as to rate and direction of future growth. Only a wide variety in size and type of towns and cities can accommodate future national growth for dispersed areas as a counter force to the massive piling up of population in megalopoli.

In one way we enter the Seventies with a more favorable climate and concept of rural development. A substantial knowledge and analytical base, though still inadequate, is being made available through the colleges, the U. S. Department of Agriculture, other government agencies and many private schools. The beginnings for better and more efficient approaches to human and economic development are available through regional development commissions and various other public and private thrusts.

Some Implications

This general look at perspectives for the Seventies raises certain implications that should not be ignored. We are not attempting to point out all of these, and in addition to mine you can think of others. In summary, these implications are:

First, in agriculture, industrialization is demanding emphasis on new areas of concern about the industry as an industry. In research, education and public policy past goals and objectives need modification. The approach through ideology that treats farming as America's last "cottage industry," and therefore something to be preserved, must give way to concerns about the process of industrialization, how producers can adjust to it and how best to spread the benefits of changes among the factors concerned with production. Industrialization requires that labor returns be a major consideration, returns to persons, not to land or a specific commodity. Policies during the Seventies probably will show much more concern about "who gets what" in the industry of agriculture.

Second, in economic development, there is a definite implication of close interdependence among sectors in the whole process of economic growth and development. It is of consequence that social issues may play a significantly greater role in development, taking a role along with the economic force of the market place. Social goals may require that macro-policies, however "finely honed," cannot be used continually to drain vast regions of population and resources while piling them up in a very few megolopoli on the other end. The full force of public goals and objectives for growth through regionalization can be partially realized if and when we begin to use the expanding public sector of the economy to bring growth and development to lagging regions and rural areas.

It is these implications and the faltering steps that have been taken that lead me to expect a more effective approach in the Seventies, in searching for and achieving the goals of rural development and a more rational population policy.

UNITED STATES DEPARTMENT OF AGRICULTURE

TRENDS AFFECTING RURAL INSTITUTIONS

Talk by C. B. Ratchford
Vice President for Extension, University of Missouri
at the Annual Agricultural Outlook Conference
Washington, D.C., 10:15, Tuesday, February 18, 1969

I congratulate the planners of the National Outlook Conference on including a talk of this nature as a part of the program. It is high time that factors other than prices, supply, demand, income, and employment be considered in such a conference. The ultimate goal of our citizens is to have a high-quality life for themselves and posterity; and the institutions of society are increasingly providing services which are essential to high-quality living.

As is customary, this paper begins with definitions and assumptions. Institutions are defined to include all decision-making units other than individuals, families, farms and business firms. Included are governmental and educational agencies, organizations, churches, service clubs, planning groups and other similar bodies.

A functional definition of rural is used for the purposes of this paper. Rural includes everything outside the standard metropolitan areas and the immediately adjacent bedroom communities which are tied in every manner to the metropolitan area.

Trends which will be mentioned refer to the typical or model community. Some institutions depart from the typical just as some farmers make more money when most are making less.

It is assumed that the typical rural area will continue to lose population with the usual attendant effects of many more people in the older age brackets and a lower relative level of economic activity.

Some Significant Trends Affecting Institutions

No effort will be made to identify all of the trends affecting rural institutions. Rather, I intend to concentrate on a few trends often overlooked and which I think are highly important in relation to action that might be taken to change the situation.

A. The Growing Role of Institutions as Providers of Services

Many services which middle-class citizens consider essential come through the action of groups of people or public bodies. It would take more wealth than Croesus possessed to provide for a single individual what all middle-class citizens enjoy with only modest incomes. This trend has been proceeding steadily in the same direction, and to a considerable extent, as a result of new technology. More than a century ago the main institutional services were protection under the law, opportunities for worship, and education for the very young. Over the years transportation, various public utilities, natural resource development, protection of many kinds, different educational opportunities, health and social services, recreation, economic development, anti-poverty programs, housing, and race relation programs have also been added. This trend will almost certainly continue.

B. Technology and Specialization and Their Consequences

The ever accelerating development of new technology and its impact on farms, businesses, industries, and homes is known and accepted. The fact that technology has an equal impact on institutions and public services is often overlooked.

The major consequence of the technology explosion has been specialization and large-scale production in every phase of our society. This is necessary for the new and superior goods and services--made possible through technology--to be available at a reasonable cost. Health care is a crucial individual and community concern and provides a good example of how new technology affects the service. Not many years ago most health services were rendered by general practitioners, and a single physician often served the entire population of a community. Most services were rendered in a physician's office or in the home, and nursing care was the responsibility of the family.

Today, minimum health service requires a team of specialists, hospitals, extremely expensive equipment, various nursing services, physical therapy facilities, and other similar services. Yesteryear, the medical doctor could do well in a relatively small community. Today's health team, however, requires a large population base, a public investment beyond the means of most rural local institutions, and an opportunity for medical personnel to be in constant and immediate touch with the worldwide medical community.

With only relative deviation the same situation applies to most other institutional services. For example, a comprehensive secondary educational program of high quality with a large number of options requires a large population and economic base. Public utilities are a classic example of large numbers substantially reducing the cost per unit. Even churches

increasingly require high financial support, which means large membership, to provide the array of comprehensive services expected from the modern church.

C. The Development of Large-Scale Social Organizations

The consequence of industrialization, urbanization, and exploding technology has led to the development throughout society of large-scale, specialized, vertical organizations. This phenomenon has been well documented by Dr. James T. Bonnen. He describes the situation as a social structure characterized by large-scale organizations, most of which are vertical in nature, many of which are national, and when taken together, encompass most of the functions of society. Government, manufacturing, transportation, communication, agriculture, labor unions, trade and professional organizations, even churches and universities are characterized by large organizations. These organizations tend to be federated into national special purpose groups. There are many interesting aspects of this phenomenon but, for the present, we are concerned with their impact on rural institutions.

One consequence has been the destroying of a 19th century nation of varied folk cultures, small communities, and small organizations each with a large degree of autonomy. Large national, vertical, special-purpose organizations tend to effectively tear apart the local community. Professionals are more concerned about their colleagues elsewhere in the country than with their neighbors in the local community. The same is true with labor organizations, trade associations, and to a considerable extent, even churches.

A more important point is that of access to the power of decision. The power to decide many of the most important aspects of a community's future has moved from local communities to higher aggregates of society and to large-scale organizations at state, regional, or national levels. The exercise of organized power today is primarily a phenomenon of large-scale organizational behavior and is concentrated to a great extent at the national level.

Any functional segment of society that wishes to exercise effective power in its own behalf today must be organized and have access to the national level of social organization. Any local institution that wishes to exercise power of decision over its own future must be of sufficient scale and organizational capacity to gain legitimate access to the state, regional, and national levels of these many large-scale functional or vertical segments of society.

It should be clear that institutions constructed on an exclusively agricultural or local rural community base to serve rural life are no longer viable. Specialized rural institutions which operate separately

and under special rules of behavior because agriculture is different or rural life is superior, have lost their ability to relate to the rest of society where most of the power of decision making, public and private, now lies.

D. Growing Interdependence of Institutions

Increased interdependence in the production sector is well recognized. Farm supply, production, and marketing are linked in such a manner that their separation, or return to self-sufficiency, is impossible. The same interdependence at the institutional level have been largely overlooked.

Interdependence is a natural outgrowth of specialization and large-scale organization, with health services and comprehensive education again being prime examples. The local rural institution stands no more chance of being self-sufficient in the last third of this century than the modern commercial farmer. The consequences of being a hermit are well recognized in economic terms, and the same consequences apply to a community which attempts to isolate itself.

Small communities are necessarily tied to larger ones. It is the exception, however, where this is recognized and where positive effort is devoted to increasing the efficiency of interaction between institutions both within a community and in different communities. The more common situation is for institutions to fight each other. In particular, small communities tend to vigorously fight larger ones--an action which chokes the larger community, brings slow death to the small community, and generally stifles the entire area.

Local institutions must increasingly interact with state and federal governments. The federal government provides some services directly and in other cases provides funds to help local institutions provide service. These funds can, and often are, used as both a stick and a carrot to bring about institutional change. For example, the desire for federal assistance for public works has caused a number of local communities to agree to comprehensive planning. The threat of the loss of federal aid to educational systems has forced many communities to integrate.

The relation with state government is even more direct because many institutions are creatures of the state. In addition to services and funds the state makes available, there are state laws and regulations which force communities to do certain things and refrain from doing others. The influence of state and national governments on local institutions is likely to increase.

E. Decrease in "Clout" of Rural Areas

Rural institutions have lost much of their "clout" over the last several decades. This is accounted for, in part, by the loss in population and subsequent reapportionment. A loss in population and representation does not necessarily mean a loss in "clout" because minority groups can be powerful if they recognize themselves as such and act as a minority group must. The first step for a minority group is to stick together. But in rural areas, cohesion has diminished concurrently with a loss in representation. Several reasons for this increasing division are evident.

One reason has been the increasing diversity of interest in a given rural locality. Part of this is a consequence of a point made earlier--namely, the development of large-scale vertical social organizations, and the high loyalty of members to these organizations regardless of place of residence. Increasing specialization within agriculture is also a contributing factor. Not many years ago most farmers in a given geographical area had basically the same problems and interests from a production point of view. Today, the specialized livestock feeder has little in common with the specialized grain producer; in fact, there may be conflict between the two.

The transfer of functions to the public sector, an example being welfare, has removed some of the incentive and necessity for citizens in a given locale to work together. The disappearance of some very local institutions, such as the one room schoolhouse, also represents the loss of an adhesive which tended to keep people in a given locale pulling together.

For decades there has been some tension and a feeling that there was a conflict of interest between townspeople and farmers. This feeling still exists in spite of every fact indicating that it should have disappeared. For example, many farmers live in town, and many people who work in town live in the country. Much more important is the dependence of all of the people on the same institutions to achieve their common goals and the fact that even the combined farm and town base may prove barely adequate for achieving their goals.

Implementation of some new national programs has created further fragmentation in many rural areas. The most laudable goal of equal opportunity for all races has resulted in the creation of new institutions, the weakening of some existing institutions, and at times, a growing animosity among the several segments of a community. Also special institutions developed to serve the poor, the senior citizen, or youth have worthy objectives and may be necessary, but again tend to further pull apart the once solid rural area.

The final factor reducing cohesiveness of rural areas is the fragmentation of the agricultural establishment. This is defined as including the leaders of farm organizations and agri-businesses, agricultural colleges, the part of the USDA that deals directly with farmers, and state and national legislative representatives who identify themselves with agriculture and who carry the legislative ball for the balance of the agricultural establishment. There is no need to belabor the point that there is serious internal conflict within the agricultural establishment. The reasons are complex and some of them are beyond the control of the agricultural establishment. For purposes of this paper the significant point is that its fragmentation has served to dissipate the already limited strength of rural areas. The splinter group, instead of forming alliances and communicating with other segments of society, have tended simply to build separate smaller and weaker national structures.

Reaction of Rural Institutions to Trends

In the final analysis institutions are created and guided by people to serve society. In this section, the term people is used instead of institutions. Reactions of rural people have been either to largely ignore what was happening with the hope that it will go away, or to react violently. These actions, or lack of actions, show up in several ways.

Rural people, even more than others in our society, have and continue to place great faith in more production and more employment reversing the situation. It is easy to see why such a solution seems appealing, particularly to farmers, but the fallacy of such an approach is discussed quite vividly by John Kenneth Galbraith in his books, The Structure of American Capitalism and The Affluent Society. Most rural areas have increased production but population has continued to decline. Further, most rural areas have not been successful in substantially increasing non-farm employment and it appears that there will not be a major change without the federal government drastically altering its policies.

There has been widespread rejection of proposals that would change local institutions. As examples, planning and zoning have been almost uniformly rejected in rural areas. Likewise, there has been tremendous resistance to consolidation of governmental functions. True, some change has occurred, but almost always as a result of a strong outside force.

There has been growing opposition in rural areas to financial aid from state and federal governments except for the traditional programs of transportation and price support assistance to farmers. The great hope for institutions whose revenue is tied to real property is more state and federal assistance, and no area is more dependent for revenue on real

property than the rural community. The difference in attitude toward state and federal support has been vividly documented in the past few months. Cities have been clamoring for financial support from state and federal governments, but this has not been so in rural communities.

Rural areas are becoming increasingly conservative--not in a political sense but in attitude--toward institutional change. Perhaps in real terms conservatism has not been increasing. But it certainly has been in a relative sense because the times dictate rapid institutional change.

It also appears that there has been an intensification of rural fundamentalism. Agricultural fundamentalism has largely disappeared; but most people in rural areas still firmly believe that the rural community is a better place in which to live, that it has better churches, and schools, less crime and poverty, greater morality, more recreation, and more everything else that is good. Obviously, the facts do not substantiate this picture and the real danger of such a view is the legitimatizing of the failure to bring about institutional change.

The Results

The result of the trends previously mentioned and the reaction to them by rural people has widened the gap in quality of service received by metropolitan and rural areas. Rural communities are lagging and this shows up in every field where measurement is possible. The census reveals the difference in educational attainment. The President's Commission on Rural Poverty documented a similar lag in health services, housing, recreation, protection, and, yes, even recreation. A higher percent of the rural people live in poverty than in metropolitan areas. One suspects that there has always been such a lag; the disturbing point is the widening of the gap.

The federal government has inadvertently contributed to widening the gap during the last two decades. This is the result of the growth of creative federalism. Under this plan the federal government makes funds available to local institutions; but the local institution must apply for the funds and must use them for certain purposes. This is in contrast to the policy followed in the 30's where the federal government administered the programs directly and established offices in every part of the country. Repeating, that while the federal government did not intend to discriminate against rural communities, the new policy has done so and is undoubtedly one factor contributing to the widening gap in level of services.

There Are Some Solutions

In this paper I was to identify and discuss some of the trends affecting rural institutions. I cannot close without a few comments on possible solutions. I realize that my paper has indicated a rather dismal outlook. However, many things can be done. In fact, I think it may be easier to upgrade the quality of institutional services than to guarantee a given price level for farm products.

The development of new institutional forms holds real promise. The regional planning commissions which are now being established in most parts of the country can help. They do pool resources of a number of smaller institutions; they pose no immediate threat to any existing institution; they can provide comprehensive planning for economic and social development; and they can relate effectively with state and federal governments.

Increased educational and technical assistance to rural institutions will bring beneficial results. One very tangible end is making use of the tools available at state and national governmental levels. Also by indicating that there are alternatives, some of the conservatism and frustrations may be eliminated and the people motivated to greater positive action.

The new institutions which have been created to deal with poverty and racial problems have helped develop new leadership. Perhaps these new leaders, along with older ones, will eventually get together to establish a new rural establishment which can and will exercise "clout" in behalf of rural America.

Basic to bringing about any improvement is an educational program which will result in a change in attitude and a clear understanding of the dimensions of the present situation and what is likely to happen and what can happen. A key to this is greater citizen involvement in institutional decision making as well as further development of high quality leadership.

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

DYNAMICS OF COMMERCIAL AGRICULTURE

Talk by M. L. Upchurch, Administrator
at the Annual Agricultural Outlook Conference
Washington, D.C., 1:30 P.M., Tuesday, February 18, 1969

For each of the past several years, we have provided time in the Outlook Conference to discuss some aspects of the changing character of our commercial agriculture. We have done so again this year, not because we have vast new information or new insights into the forces and directions of change. Rather, our inclusion of this topic on the program is prompted by its importance in any discussion of the future of American agriculture.

What are the changes? Why are changes occurring? Where are the forces of change taking us? What sort of a commercial agriculture is emerging? What are the implications of change with respect to farm income, costs, supplies, and prices of commodities, Government programs, and many other topics? What is happening to the people in agriculture? These questions bother many of us. They deserve thoughtful discussion by farmers and farm leaders.

None of us has any precise or pat answers to these questions. Certainly I have no private peephole into the future. I shall try, however, in the brief time allotted to examine some of the facts and factors involved with the hope that you may be stimulated to further thought and discussion.

Number and Size of Farms

The changes in number and size of our farms is well known to students of agriculture. Nevertheless, a brief review of the trends is in order to refresh your memory and to get us all started thinking from a common set of facts.

We have roughly 3.0 million farms in the United States at the present time, about half the number we had 30 years ago. Of this 3.0 million, roughly one-third are commercial farms producing gross sales of \$10,000 or more per farm, roughly one-third are commercial farms producing less than \$10,000 in gross sales, and roughly one-third are residential farms. (For convenience of communication, let us call commercial farms producing more than \$10,000

in gross sales "big" farms, and those producing less than \$10,000 in gross sales "little" farms. The terms "big" and "little" will have no other connotation in this discussion.)

Big farms have increased in number from 320,000 in 1939 to slightly more than 1.0 million in 1969. The percentage of all farm sales accounted for by this group increased from about 40 percent in 1939 to more than 80 percent today.

Little farms have shown quite an opposite trend. Their numbers have declined from nearly 4 million in 1939 to about one million today. The percentage of farm sales from this class has declined from nearly half to about 15 percent of the total.

The number of residential farms, in contrast to both big and little commercial farms, has remained relatively constant for the past 30 years, declining a little, but not drastically. We will come back to residential farms later.

The shifts in number and output of big and little farms suggests increasing concentration of farming in the hands of big operators. But this conclusion needs closer scrutiny.

The biggest farms (those with over \$40,000 in gross sales) tripled in number between 1949 and 1964, but the percentage of gross sales only doubled. The bigger farms (those with gross sales of \$20,000 to \$39,999) increased in number by 2-1/2 times in the same period, but their percentage of gross sales increased only 80 percent. The merely big farms (those with gross sales of \$10,000 to \$19,999) increased in number only 40 percent, and their proportion of gross sales just about held its own.

The odd fact is that the average size of all size classes of farms has been moving upward. If you array all farms by size and divide the total into quintiles, you find that the upper two-fifths of our farms have produced about 80 percent of total output. The proportion has changed little for many years. The lower two-fifths of our farms consistently have produced about 10 percent of total output. The middle quintile has produced the remaining 10 percent with little change over time. Although farms have become fewer and larger, the relative size distribution among farms remains surprisingly constant.

Why have our farms become larger and fewer? Some claim that the cause is greater efficiency of large farms. Our studies cast doubt on this as an adequate explanation. Virtually all of the internal economies of size are exhausted for most types of farms when a farm is big enough to fully use one set of modern equipment. This means a good one- or two-man farm in most regions.

Some claim that farm programs are the cause. We find little evidence to support and much to refute this hypothesis.

Other explanations must be sought.

Constant improvements in the size and performance of farm machinery and other modern technology makes the individual farmer more productive than farmers of past generations. Today's farmer with 6- and 8-row equipment has the capacity to operate on a larger scale than his father did with 2-row equipment, and than his grandfather did with horse-drawn equipment.

Farmers today, just as you and I, have an appetite for more income. Given the capacity to operate on a larger scale and the urge to increase total net income, the modern farmer seeks to expand. He rents or buys more land. When he does this, he may reduce unit costs of production, but he will strive to expand even at increasing unit costs, if he can increase his total net profit.

So farmers have the capacity in modern technology to increase size of operations. They have the incentive in the normal urge for more income. It goes without saying that the county which once had 1,000 320-acre farms may now have room for only 500 640-acre farms.

There is some evidence that the size of each quintile of farms in the size spectrum is increasing at about the same rate. One would think that if technology were the chief cause of size increases, the largest farms would show distinct advantage. In modern agriculture, however, a wide array of modern technology is available at competitive costs to a wide range of sizes of farms. Farmers who are too small to afford specialized equipment often can hire custom operators at reasonable costs. Fertilizers and pesticides frequently are applied by custom firms or suppliers themselves. This accounts in part for the persistence of part-time farming in this country and for the staying power of small farms, even though small farms themselves are getting bigger.

Nevertheless, the absolute number of small commercial farms is declining rapidly. Neither the availability of technology nor differences in efficiency among farms seems to give an adequate explanation. Little commercial farms with limited resources simply do not offer a sufficiently attractive economic opportunity for people, especially young people. Older farmers now on small farms may very well continue until they retire or pass away. Their sons or grandsons are not likely to maintain the same farm unit. They are more likely to combine "the old home place" with two others to make a farm big enough to be an attractive economic opportunity or they are likely to seek opportunities outside of farming.

The Family Farm

Despite the trend in number and size of farms and despite steady increases in the capital required for modern farming, most farms are still family farms.

Self employment by the farmer and his family remains predominant in American agriculture.

If you define a family farm as one that employs less than 1-1/2 man-years of hired labor, 95 percent of all farms are family farms. This percentage has changed little for many years.

The labor required in farming has decreased rapidly. Only half as much labor is used now as in 1950. Despite this dramatic shift, the proportion of all labor supplied by farmers and their families remains at a constant three-fourths. Use of family labor and hired labor in farming has declined at virtually the same rate.

The proportion of labor supplied by farm families varies considerably by States and by type of farming. Throughout the Corn Belt, from Pennsylvania and Nebraska, and from Oklahoma to Minnesota, farm families supplied from 85 to 90 percent of all farm labor. In Arizona, California, Florida, and New Jersey, the percentage dropped to 20 to 40.

These numbers suggest several observations. As farms have become bigger and fewer, farmers have not hired more labor. They have bought bigger machinery and have extended their own labor over bigger operations. Thus, when measured by the hired labor standards, many of the larger farms have become family farms by substituting bigger machinery for hired labor. The modern family farm with \$100,000 or more in capital investment may look quite different from grandfather's family farm, but self employment of the farmer and his family remains a dominant characteristic of most types of farming.

Specialization and Diversification

The modern farm is increasingly specialized. You need no statistics to observe this trend. The reasons for this are many and the trend continues. The shift away from horses to tractors relieved farmers of the necessity to grow feed and pasture. Growing use of fertilizers and pesticides relieved them of the necessity to diversify to maintain yields. Better roads and faster and cheaper transportation permitted separation of feed production and livestock feeding. Easier access to stores decreased the need to produce food at home. These, and many other reasons, prompted the trend toward fewer enterprises and more specialized production on farms.

But farmers have been diversifying in another way. Off-farm income has become an increasing factor in the life of farm families. In 1967, the farm population got \$13.0 billion net from farming and \$10.7 billion from nonfarm sources. On the average, each farm operator family received \$4,526 net from farming, and \$4,452 from nonfarm sources. Nonfarm income per farm family more than doubled between 1960 and 1967.

Farm families are increasingly indistinguishable from urban families. The farmer more frequently is moonlighting. The farm housewife more frequently is participating in the nonfarm labor force. Better roads and

easier access to town, increasing demand for nonfarm labor in many areas, increasing need for income by farmers themselves, all play a role in this trend. Farmers are diversifying, but off the farm, rather than on it. This fact too may help explain growing specialization on farms.

The Agricultural Industry

We can see and count fairly easily some of the changes in commercial agriculture. Numbers of farms, numbers of tractors, even numbers of people working on farms are tangible quantities that generally can be observed and tabulated. Other changes, and perhaps some of the most important changes, are more subtle, more difficult to define, and more difficult to count and analyze. These are changes in the way in which the agricultural industry is organized, the nature of the firms (including farms) in the industry; the functional relationships among these firms; and the effects of the changing organization and relationships on the economic health of the industry or major segments of it.

It helps perhaps to think of the agricultural industry as the entire spectrum of firms and functions extending from the basic resources and input producers at one end to the retailers of the final product at the other. At many stages in this spectrum, entrepreneurs bring resources or inputs together and perform functions that transform these into useful products. The product of one stage becomes an input in the next stage of production until the final consumer is reached.

The organization and functions of the agricultural industry was once not too difficult to understand. The farm and the farmer were identifiable. James Whitcomb Riley defined farms and farmers as well as anyone, and everyone understood what he said. The farmer spread his labor over his land and with nature's rainfall and sunshine, he created a combination of products. He combined his efforts and his enterprises to give him the most satisfactory total output. The products he did not need at home were sold at the nearest suitable market and he bought necessities that could not be grown or made at home. Thus, the "farm gate" became an identifiable place and a useful concept in agricultural statistics and economics.

We sometimes wonder now where the "farm gate" is and whether we should even look for it. This is only a crude way of saying that the organization of the entire industry has been changing rapidly in recent years. With these changes, the identity of a farm product, or of a farm input, the point at which prices are made, and the relationships among vertical stages of the spectrum of production become more difficult.

Perhaps the most subtle and most important of all changes is the change in the attitude of farmers regarding the purpose of farming. The purpose of modern commercial farming is to make money. This may be too simple and too obvious; but when you reflect on this idea you may better understand the changes that are remaking our agricultural industry and reshaping the lives of farm people.

I can remember when our agricultural leadership advised farmers to be more self-sufficient, to use horses instead of tractors because they required no cash money for fuel and reproduced themselves, to diversify because this improved fertility and avoided the need to buy fertilizers, to combine crop and livestock enterprises because this provided work all winter (I never could understand the virtue of more work), and above all, to stay out of debt. These and a number of companion concepts make up what I call the "former philosophy of farming." Farmers who failed to heed most of this good advice from their leadership most often were the ones who made money and who bought their neighbor's land.

The pursuit of profit is pushing our commercial agriculture into new ways of doing business and new configurations of business organizations and relationships. The biological processes of putting seed in the ground and harvesting the issue, of mating animals and raising the offspring, of nurturing trees and picking the fruit are all functions of farming. But the business organizations that perform these functions and the way in which they relate to other business organizations is a rapidly changing picture.

We do not yet have this picture in clear focus. Our present statistics do not define or measure it very well. We have bits of information on how some firms are vertically integrated with others. We have some observations on how some stages in the spectrum operate. We believe that the entire spectrum is becoming more tightly intertwined, more mobile, and more sensitive to economic forces that may be injected anywhere in the spectrum. We have much work to do in the years ahead before we can get a proper grasp of this dynamic industry.

Corporations in Farming

During the past year, we have been striving to bring one bit of this changing picture in sharper focus. We have gathered some information on the number and nature of farms operated under a corporate form of business.

Information has been collected through the local Agricultural Stabilization and Conservation offices. Data from 22 States were published in a preliminary report last August. These and data from an additional 25 States will soon be in print. These data will cover all the 48 contiguous States except California.

We have learned that in the 47 States we have about 11,000 farms operated by corporations. Most of these, about 7,500, are family corporations, and an additional 1,300 are individual corporations. Only about 2,200 are classed as other than family and individual firms.

Half of the individual corporations and two-thirds of the family corporations are engaged in farming only. More than 40 percent of the "other" corporations are classed as "farming only" in their business interests.

Of all corporations counted, 40 percent had business in addition to farming. Some were in agri-business enterprises, about half had other business not related to agriculture, and a few had combinations of interest.

Very few of these corporations had really big farming interests. Eight percent are reported to have grossed more than \$500,000 from farming. A fifth of them, at the other end, grossed less than \$20,000. Oddly enough, 6 percent of the family corporations were in the half-million dollar plus class.

We know from this study that nearly half of these corporations were organized before 1960. We cannot tell for sure from these data whether corporations in farming is a growing characteristic for we have no comparable data for earlier years. We presume that it is. From Internal Revenue Service data, we know that corporations identified as "agriculture, forestry, fisheries" numbered 6,820 in 1949, and 27,582 in 1965. In 1963-65, these data identified farming separately; in these years the number of corporations in farming grew from 16,227 to 18,526.

These data do not tell us all we would like to know about corporations engaged in farming, but they do tell us something. A large majority of these corporations are family affairs organized by farmers themselves to facilitate business functions. In total, they show a range of size distributions not unlike the range for all farms, although a little larger.

As one might expect, the proportion of farms operated by corporations varies widely among States and among types of farming. Corporations are more common in ranching than in crop farming. We suspect they may be numerous in specialty crop farming, but our data are not firmed up on this point.

Our efforts so far tell us that the corporate form of business organization, especially the large conglomerate public corporation, has not made large inroads on our farming at the present time. One would expect that, as the capital required for modern farming continues to increase, farmers themselves may increasingly adopt the corporate form of business to facilitate accumulation of capital, to limit liability, to ease inter-generation transfer of assets, and for other purposes.

There is no reason to believe from our skimpy studies so far that the huge public corporation has any unique advantages in farming over other forms of business. Some agri-business corporations engage in farm production and some farm corporations engage in agri-business to facilitate integration in the input-farm-product-market complex. One would expect innovative businessmen in farming and out to exploit these opportunities when they can to their advantage.

A footnote should be added here. We should avoid confusing the corporate form of business with size of business. Although farms operated by corporations tend to average larger than all farms, the data do not support the association of "big" and "corporate" often found in agricultural literature.

Summary

Let us recap. Farms are getting bigger and fewer. The farm population is now down to about 10 million. Farms are becoming more specialized, more frequently livestock enterprises are separated from crop enterprises. Nevertheless, family farms predominate and likely will continue to do so although the family farm of tomorrow will be quite different from the family farm of yesterday. These changes are well known.

Less well known, however, is the changing functional relationships among firms in the whole spectrum of agricultural industry. The ways in which successive stages in the spectrum of production complement each other and compete with each other are changing rapidly and are little understood.

The nature of the business organizations at these stages and the way in which they operate, one with another, are changing too. The legal form of the business--whether corporate or private--the methods used in assembling capital, the strategies of firm growth, and the bargaining relationships among firms are all part of the picture. Our present data and state of knowledge do not bring this picture into clear focus. Understandably, our view of future trends is far from clear.

Despite our lack of clarity, we know that these changes have far-reaching implications for the role of agriculture in our national economy and for the development of economic and social programs for farming and rural people. When most rural people were farmers, we could more easily equate farm product prices with rural welfare. But when few rural people farm, and when farming is but one stage in a highly complex industry reaching into both rural and urban areas, our traditional views of farming and rural life must change.

I have not answered the questions I asked at the beginning of this talk. I did not promise to do so. I hope, however, I have hinted at the dynamics of commercial agriculture sufficiently to stir your thinking and to prompt discussion. For we do need to think about and discuss these changes we observe about us. We need to clarify how we want our agricultural industry to look in the future and, with it, influence change, rather than letting change influence us.

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

A LOOK AHEAD FOR THE AGRIBUSINESS INDUSTRIES

Talk by Kenneth R. Farrell
Acting Assistant Administrator
and

Chairman, Outlook and Situation Board
at the National Agricultural Outlook Conference
Washington, D.C., 2:50 p.m., Tuesday, February 18, 1969

Over the past several decades a revolution based on science, technology and education has altered greatly the organization, conduct and performance of U.S. agriculture. Although we can foresee only broad outlines of the future dimensions of the sector, the events of the past two decades point to an increasingly scientific, specialized, capital-intensive industry closely oriented to market demand for food, fiber and attendant services in an affluent society.

To understand many of the causes of change in today's commercial agriculture, one must look to activities occurring off the farm and in particular to the activities of firms supplying production inputs to farmers and those which receive, transform and distribute products from farmers to consumers. To an increasing extent, the activities of these firms are becoming interrelated and coordinated to form a food and fiber system or in the terminology of Davis and Goldberg 1/, an agribusiness system--a system in which domestic annual sales of food approximate \$100 billion at retail.

Accordingly, this paper aims to: (1) report some of the major changes in the farm supply and product marketing components of the agribusiness system; (2) present the 1969 outlook for selected parts of the system; (3) identify some of its longer run prospects; and (4) draw some inferences of possible consequences of these trends for farmers.

* The assistance of several ERS economists, particularly Paul E. Nelson of the Marketing Economics Division, in the preparation of this paper is gratefully acknowledged.

1/ Davis, J. H., and Goldberg, R. A., A Concept of Agribusiness, Division of Research, Graduate School of Business, Harvard University, Boston, Mass., 1957, p. 7.

Functionally, the agribusiness system consists of a series of interdependent stages in which value is added successively from one stage to another. Goldberg's ^{2/} estimates for 1967 for the food sector indicate that farm supply firm's sales to farmers totaled about \$31 billion and represented about one-third of the final value of domestically produced foods purchased by U.S. consumers in that year. Value added to these inputs in the farm sector totaled about \$12 billion or about 12 percent of the final retail value. The remainder, about \$52 billion or 55 percent of final value, was added in the farm product marketing sector.

The dimensions and performance of the agribusiness system have changed dramatically. The retail value of sales of all domestically produced food has doubled since 1950 ^{3/}; the value of inputs purchased by farmers has increased 36 percent. ^{3/} Employment in farm supply industries has increased about 15 percent and that in the food and fiber processing and distribution sector about one-quarter ^{4/} since 1947. Employment in the entire agribusiness system has decreased about 5 percent as a result of the decline in numbers of farm workers.

In the farm supply and product marketing sectors of the system, firms have increased in size, decreased in number and functionally expanded their operations by vertical and/or conglomerate growth and acquisition. For instance, the number of establishments manufacturing food and kindred products decreased by 6 percent but the number of such establishments with 100 or more employees increased nearly one-quarter between 1947 and 1963. ^{2/} The tendency for concentration in some parts of the farm product marketing sector has been highlighted by the report of the National Commission on Food Marketing and studies of the Federal Trade Commission.

The trend toward vertical integration among stages of the system through contracts and acquisitions is well known and manifest in the production of broilers, fruits and vegetables for processing and to an increasing extent in cattle feeding, egg and turkey production. Conglomerate integration--the integration of economic enterprises not functionally interrelated in a production process--has also been on the increase as illustrated in acquisitions of food manufacturing firms by firms engaged simultaneously in industrial manufacturing, aerospace, transportation and other activities not closely related to the food system.

^{2/} Goldberg, R. A., Agribusiness Coordination: A Systems Approach to the Wheat, Soybean, and Florida Orange Economies, Division of Research, Graduate School of Business, Harvard University, Boston, Mass., 1968, pp. 12 and 22.

^{3/} Marketing and Transportation Situation, August 1968, p. 12; and preliminary estimate. Changes in Farm Production and Efficiency, U.S. Department of Agriculture, Statistical Bulletin No. 223, 1968, p. 16.

^{4/} Census of Manufacturers, 1947 and 1963.

While most agribusiness firms have yet to develop the extensive function and product diversification that prevails in some other sectors of the economy, they are moving in that direction. In 1947, agribusiness firms traditionally were "product oriented." They thought of themselves as sellers of dairy products, manufacturers of feed, mixers of fertilizer, etc. By 1969, they had become increasingly "systems oriented." No longer are they wedded in concept to a product or a narrow economic function. Rather they think in terms of product portfolios and functional activities which will maximize money flow and profits. Where coordination is not readily achieved through prevailing market mechanisms, it is being achieved by contract or ownership. The emergence of this "systems orientation" has meant increasing reliance upon automation and quasi-automated processes through the system.

Economic and merchandising pressures encouraging a closer and closer integration of operations from farm to consumer simultaneously have stimulated interest in matching scales of operation at each intervening level. They also have supported an increased reliance upon new products, improved products, and their related services as a major competitive technique.

The dairy industry provides an example of these developments. In the immediate post World War II period many, if not most, dairy processors joined dairy farmers in fighting the introduction of colored margarine. Today, if a dairy processing firm can earn profits selling filled milk, or other dairy product substitutes, along with cocktail snacks or other products to round out its portfolio it gladly will add such items, even if it means that traditional dairy products must be dropped. Changes in function along with a broadening of product line are reflected in corporate structure of these firms. Of 430 business acquisitions made by firms in the dairy and bakery products industries between 1959 and 1964, 126 (about 30 percent) either were conglomerate or vertical in character. Of the conglomerate acquisitions, 22 percent were into nonfood processing/merchandising activities. 5/

On the input side, the Food and Fiber Commission's report 6/ provides evidence of a systems orientation and trend toward broadened product and service portfolios. In the case of manufacturing, the petroleum-rubber complex devotes 20 percent of its total assets to the production of agricultural business services and products; motor vehicles and parts, 15 percent; and the chemical industry, 10 percent.

5/ Cohn, E. A., and Crutchfield, L. N., Ownership Changes Made by Bakery and Dairy Products Companies, 1959-1964. ERS 291, U.S. Department of Agriculture, Washington, D.C., 1966, pp. 4-5.

6/ Arthur, H. B., Goldberg, R. A., and Bird, K. M., The United States Food and Fiber System in a Changing World Environment, Vol. IV, Technical Papers, National Advisory Commission on Food and Fiber, Washington, D.C., 1967, p. 20.

The increasing diversity of function is perhaps especially emphasized by the building and farm equipment dealers. At least 30 percent of their assets now are devoted to nonagricultural business activities. Increasingly, such businessmen will cease to think of themselves as feed dealers, or fertilizer dealers. Instead, they will think of themselves as agribusiness firms providing a broad portfolio of products and services.

Changes in performance in farm supply and product marketing sectors are apparent by reference to a few crude measures. These measures which refer to a sample rather than the universe of agribusiness firms, primarily reflect changes in technology. 7/

Value added per employee--a crude measure of overall efficiency--increased sharply in both the product and input sectors between 1957 and 1967 (261 and 154 percent respectively). Capital expenditures increased 164 percent in the product sector and 90 percent in the input sector.

Indicative of the increasing emphasis on competition on a product and service basis, expenditures for advertising increased 431 percent in the product sector and 244 in the input sector. Both components had increases in gross profits, 66 percent on the product side and 143 percent for input industries. But because total assets grew even more rapidly--196 percent for products and 244 percent for inputs--profits per dollar of assets declined 44 percent in the product sector and nearly 30 percent in the input sector. Total employment likewise reflected increased capitalization expanding by only 7 percent in the product sector and declining by 9 percent in the input sector. In sum, the agribusiness system has been a vibrant, expanding and radically changing sector of the economy during the past several decades.

7/ The sample includes, on the product side, food and kindred products, tobacco, textile mill products, apparel, lumber, furniture, paper and allied products. On the input side, includes agricultural chemicals at the formulator level, farm machinery and equipment and prepared animal feeds.

For the advertising, assets, and profit comparisons, the product and input sides are not strictly comparable with the industry categories used for comparing capital expenditures, value added, and total employment. In the former case, IRS data could not be broken out to separate prepared animal feeds from grain mill products. Hence, the product side includes them in comparisons using IRS data and the input side thus excludes them.

For the Census based comparisons, prepared animal feeds were subtracted from food and kindred products but then were added to input side, prior to computing changes 1947-1966. Census data were taken from Census of Manufacturers 1947, 1954, and Annual Survey of Manufacturers, 1966. The standard deviation for estimates adopted from 1966 Annual Survey was 1 percent. The IRS data came from the Source Book, 1947 and 1967 (1966 data).

Before examining some possible longer run developments in the system, I will discuss the probable economic environments in the product and input sectors in 1969.

1969 Outlook for the Agribusiness Complex

The Product Component

Consumer demand for food and fiber products is expected to advance in 1969 as population and per capita disposable income increase. However, in comparison to 1968, the rate of increase is expected to be somewhat less as a result of projected smaller increases in consumer disposable income in 1969 (6 percent compared with 8 percent in 1968). On the supply side, current prospects suggest that the aggregate volume of marketings by farmers may also increase this year. On the whole, processors, retailers and handlers of food and fiber products might expect generally favorable conditions on both the supply and demand sides of their markets.

However, prices of major inputs used by food marketing firms are expected to continue their upward course of recent years. A year ago, average hourly earnings of employees of food marketing establishments rose about 6 percent from 1967 levels. This increase was substantially larger than the average annual increase of 3.7 percent during 1957-67. This year fewer important labor contracts are coming up for negotiation in food processing industries. Also, increases in wage rates resulting from provisions of existing contracts will be smaller than in 1968. Thus, there is some reason to expect smaller increases in average hourly earnings this year. Most other costs of food marketing firms including depreciation, advertising, rents and debt-servicing can be expected to continue their long-term rise. In this connection, it is significant that despite the rising volume of farm products marketed and the substitution of capital for labor in some marketing processes, the labor cost per unit of product handled in the marketing system increased nearly 20 percent between 1957 and 1967.

What are some of the possible aggregate results of these prospective developments in 1969? First, it seems likely that the marketing bill for foods originating in U.S. farms will continue its inexorable advance in part because of an increased volume of marketing, in part because of increased unit costs of processing and distribution. However, the increase should be somewhat less than the 6 percent increase between 1967 and 1968--an increase which pushed the bill to a record \$61 billion or about \$21 billion higher than 1957-59. We estimate that of that \$21 billion increase, about one-half resulted from an increase in volume of products marketed, about a third stemmed from rising cost rates and the balance from increased services per unit of product marketed. Although we do not yet have data on the cost components of the marketing bill for 1968, labor costs represented about 44 percent and corporate profits before taxes on income represented about 5 percent of the total in 1967.

We also expect prices of food in retail stores to rise in 1969, perhaps 1 to 2 percent compared to 3 percent in 1968. But prices in away-from-home eating places likely will continue to rise at about the 5 percent rate of last year. Spreads between retail prices of foods and returns to farmers for equivalent farm products are likely to average between 2 and 3 percent wider in 1969 than in 1968. The increase from 1967 to 1968 was nearly 3 percent, which compares with an average annual increase of 1.5 percent thus far in the 1960's. In the aggregate, consumer expenditures for food may increase 4.5 to 5.0 percent in 1969 from a total of \$101 billion in 1968.

The Input Component

On balance, the farm supply industries can expect continued growth in demand for their products and services in 1969.

Farm Machinery and Equipment

Farm purchases of machinery and equipment have increased annually by about 10 percent (in current dollars) since 1960. While demand has slackened for some items, it has increased consistently for large tractors and combines. The use of larger equipment as a substitute for labor has been reflected by the ratio of man-hours of labor input to the inventory value of machinery and equipment. When higher prices are taken into account the "real increase" in investment per man-hour of labor, 1940-1967, has been well over ten-fold.

There should be no substantial deviations in 1969 from long-run trends in demand and price, particularly for large machinery and equipment. The continuing increase of mechanization in the harvesting of fruits, nuts, vegetables and tobacco will add a small but increasing demand. The greater impact of mechanization of these crops will be upon the demand for farm labor which traditionally has been used extensively to harvest these crops.

Fertilizer

Never before has so much fertilizer sold for so little money as in 1968. Demand for fertilizer will continue strong through the coming crop year. As usual, total sales will be closely related to weather conditions at planting time. Fertilizer prices in 1969 should reflect some of the economies which are expected to be associated with the introduction of pipeline transmission of anhydrous ammonia. One such pipeline began operating in late 1968. It extends more than 800 miles from Borger, Texas, to northwestern Iowa. A second line scheduled to start in mid-1969 will carry ammonia from the Texas-Louisiana Gulf Coast to northern Indiana--a total distance of some 2,000 miles.

Demand for phosphates will not use the potential supply this year. The output of phosphatic fertilizers will not be limited by short

supplies of sulfur, as has occurred at times in the past. For the first time in about 4 years, sulfur producers are trying to encourage greater use by reducing prices. Thus, some price decrease for phosphates could occur in 1969. 8/

Use of potash is likely to move to record levels again this year, as it did in 1968. United States-Canadian joint capacity is far in excess of current levels of use. In the last 3 years, wholesale prices for some grades of potash have been cut nearly in half. There is little likelihood that present potash prices will rise more than a token amount at the farm, if at all, this year, although some firms project the possibility of a potash price increase in about 2 years. 9/

Pesticides

Each year farmers are using more pesticides. A major reason is the substitution of chemicals for mechanical cultivation. Manufacturers' production of chemical weed killers (herbicides) has increased 15 to 25 percent each year during the last decade. Increases in the use of insecticides and fungicides appear to be leveling off, and supplies of most pesticide materials have generally been and will continue to be adequate.

Prices for most pesticide products have changed little in recent years. For example, the average U.S. retail prices of DDT, 2, 4-D and malathion varied by less than 10 percent between 1962 and 1967. Wholesale prices varied even less.

Although prices of some specific items have remained relatively unchanged, there has been a general rise in the average cost of certain groups of pesticide products--particularly herbicides. For example, the average cost for a pound of weed killer rose 50 percent between 1963 and 1967. This rise was primarily due to the substitution of more specialized chemicals, such as atrazine and simazine for the more commonly used 2, 4-D.

Commercial Formula Feeds

The short-run outlook for the commercial formula feed industry usually parallels that for livestock and poultry and their products. Right now, it looks like milk producers will have another good year. Formula feed for dairy cows should show additional volume. The volume

8/ During the late fall 1968 and early winter 1969, several firms increased "list prices" for phosphate tabs, prilled fertilizer grades of urea and ammonium nitrate. One company has proposed a further increase for March 1, 1969. Simultaneously, the Wall Street Journal (Jan. 3, 1969, p. 24) reported: "Competition has been intense and discounts widespread." The price decrease suggested refers to actual prices paid, not to "list prices."

9/ Oil, Paint, Drug Reporter, 194 (22) 4, Nov. 25, 1968.

of hog feed should also increase with the anticipated increase in pork production. However, use of hog formula feeds may slacken if slaughter hog prices decline. Increases in formula feed for fed cattle will reflect the larger numbers of cattle on feed and fairly attractive feedings margins.

The outlook for demand for feed in the poultry industry is more uncertain. First, the current high returns to egg producers may ease in the latter half as production increases. That in turn might lead to culling of layers and a decline in feed use. Broiler and turkey production are largely determined by net operating margins realized in the preceding year and anticipated returns in the current year. Some continued increase in feed for commercial broilers and some reduction for turkeys seems likely on the basis of recent and expected trends.

Longer Range Prospects for the Agribusiness Complex

In looking to the longer range prospects for agribusiness, an extension of the trends of recent years can be expected. These include: 10/ (1) industry adoption of the "systems orientation" at an increasingly rapid pace; (2) continuously tighter coordination between all levels intervening between the farm production and retail sectors and between the farm production and farm supply sectors 11/; (3) emergence of more efficient and comprehensive information systems, both internal and external to the firm; (4) gradual decrease in the numbers of marketing levels at which prices are determined in "open markets" 12/; and (5) increased emphasis upon product competition and quality, and tighter product specification and quality control to meet consumer expectations.

The agribusiness sector of the future likely will have: (1) even fewer firms; (2) larger firms; (3) more contractual arrangements; (4) access

10/ The sporadic creation of at least partial disequilibrium throughout the complex because of changes in such exogenous forces as shifts in transportation costs, and the cessation or initiation of major public programs will have some impact on current trends.

11/ Facilities will be designed to provide maximum scale benefits at all intervening levels. This may require increased vertical integration if scales of operation at intervening levels are to be consonant, and if the open market ceases to provide such a function. For example, only stores and warehouses falling within a certain size range can effectively utilize containerization.

12/ This development may be associated with the stress on product merchandising where processors establish the retail level price for their own brands, or where they produce to the retail firm's specification, including retail price. If this trend develops, the appearance of "shadow prices," not market determined, will become more common.

to more complete information systems both internal and external to the firm; and (5) an increased span of ownership control across industry lines.

Two illustrations of what "could" develop will dramatize the potentials of these assumptions and projections.

The first pertains to automation in the retailing of such durable grocery items as canned foods, paper products and soaps. Assume that retail checkout counters will be equipped with automatic price scanners tied to the store's automatic data processing system. This would enable each store to order items via direct line connection to the store's warehouse. The store warehouse would then be able to order by computer from the appropriate supplier.

Under such circumstances, the retailer could bargain and contract for a year's supply of the specified item for a single price. Since the processor would know prior to processing how many units the firm would purchase for the entire year, there is no mechanical reason why the processor cannot preprice every can or package for the retailer. Or the retailer could have his total order priced at several different retail prices, simply by specifying the number of units he wanted at each price. The retailer thus could plan his pricing strategy for the entire year at one time, and order directly from the processor. Retailer's savings would come from elimination of most of his instore pricing labor. As computerization advances, the handling and shipment time saved at both processor and store warehouse levels should contribute to substantially lower distribution costs. More efficient inventory management also should be possible under this system.

Does this pricing process seem fantastic? Then recall that for most grocery items at the wholesale level there are few price changes per year. Also for such items there is little short-run relationship between price changes at wholesale and at retail, primarily because of variable price merchandising at the retail level. 13/

Such a system would lead to tighter product specifications and coordination of product practices and merchandising techniques throughout the system.

On the input side, the traditional market channels for fertilizer (producer of raw materials, to formulator, to wholesaler, to retailer, to farmer) are under direct challenge as a result of vertical and conglomerate integration.

13/ Nelson, Paul E., and Preston, Lee E., Price Merchandising in Food Retailing: A Case Study, IBER. Special publication, Graduate School of Business Administration, University of California, Berkeley, 1966, pp. 86-93.

At the retail level, both the traditional independent seller of farm supplies and the farm coop outlets face challenges from various retail farm service complexes being developed, particularly by petroleum companies. Specifically, one big petroleum company is investing at least \$110 million in 11 States, with the objective of capturing 15 percent of the Midwest farm market by 1973. This investment should result in 200 company-owned-and-operated retail farm service centers in 1970--all selling petroleum products, tires, batteries, accessories, LP-gas, fertilizers, and agricultural chemicals. 14/

The spokesman for this company is quoted as saying:

The idea: offer farmers a total package of products and services as a one-stop shopping concept. The pitch: profit programming: on how to use X's farm products and services to increase yields and profits. You might say we will be selling answers to these problems rather than selling products. 14/

A second nationally known petroleum company is following a similar approach, though more limited in product mix.

Challenging these petroleum corporate financed centers is another conglomerate, not primarily a petroleum company. It intends to locate centers in rural growth areas approximately 50 miles from each other:

Early stages of development will call for a minimum of 12 centers per state in wheat, livestock areas, and at least 16 per state in other diversified farming areas. The key enterprise in each complex will be a farmers' supply store--a cash-and-carry operation furnishing all the farm related items that are used in repairing and maintenance of farm equipment. Also other tenants will include an automotive dealership, and implement and industrial equipment outlet, a discount lumber yard, a gasoline service station, a bulk petroleum tank farm, a liquid propane gas installation, fertilizer facility, grain and feed installation, a grocery market, a farm management company, farm insurance agency, finance and loan company, farm and loan real estate agent, tax and electronic accounting service, electronic farm record-keeping service, livestock marketing and management company, cafe and community center. Services of a veterinarian, agronomist, and nutritionist also will be available. Also, efforts will be made to establish the relocation of government agriculture offices. 15/

14/ No author. "Sinclair's Farm Gamble: \$110 Million Seed Money Planted," National Petroleum News, July 1968, p. 74. No author. "Standard's Farm Service Center," Nebraska Oil Jobber, June 1968, p. 11.

15/ No author. "Farm Shop Centers Planned in Nebraska," Omaha World Herald, January 8, 1969.

Are these developments the harbingers of things to come in the input industries?

Some Implications for Farmers

I have depicted the agribusiness system as a vibrant, expanding, radically changing sector of the economy. It is becoming increasingly science and systems oriented: it is highly adaptive in the application of technology and consequently increasingly capital-intensive. On the product side, the system is being geared to the mass merchandising of highly uniform food and fiber products involving product differentiation through proprietary brands and large-scale advertising. On the farm supply or input side, firms are becoming increasingly service and systems oriented.

Structurally, the sectors of the system are becoming increasingly interdependent through various forms of vertical integration. Conglomerate integration is beginning to pull the system into the orbit of other sectors of the economy. This whole process has been termed the "scientific industrialization of agriculture." 16/

These developments and potential developments have far-reaching implications for farmers. Farm product markets will become increasingly narrow and specific for an increasing number of commodities. Production processes, product attributes and delivery schedules will be more tightly phased with operations in the product marketing sector. The tendency to match scales of operation at all levels throughout the system will place further economic pressure on small farms and will pose important challenges to farmer cooperatives.

The tendency toward integration of farming with activities of firms in the input and product marketing sectors is strong and will increase. It is difficult to foresee the extent to which this trend may lead agribusiness or other firms to themselves undertake production of farm products. In part, the extent to which this occurs will depend upon how today's farmers and farmer cooperatives rise to the challenges and opportunities of an industrializing food and fiber system. Some observers believe that the questions at issue in these developments are basic to the continuation of the independent, family-owned-and-operated farm as we know it today. And herein lies a great challenge to public researchers and educators to analyze, understand and help guide change and adjustment in an extremely dynamic agribusiness system.

16/ Shaffer, James D., The Scientific Industrialization of the U.S. Food and Fiber Sector: Background for Market Policy. Paper presented at NCR-20-NCR-54. Joint Seminar on Agricultural Organization in the Modern Industrial Economy, Chicago, Ill., April 29-30, 1968.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

AGRICULTURAL SITUATION AND OUTLOOK FOR 1969

Talk by Rex F. Daly *

Acting Director, Economic and Statistical Analysis Division
at the National Agricultural Outlook Conference
Washington, D.C., 3:30 P.M., Tuesday, February 18, 1969

Farm income this year may be hard pressed to match 1968 levels. Prospective output and big carryin stocks point to larger supplies this year for major farm products. Sizable increases are indicated for such important foods as beef, pork, poultry, vegetables, and fruits. However, prices received by farmers are expected to average about at 1968 levels.

A larger volume of marketings and little change in average producer prices would result in larger cash receipts in 1969. With some increase in Government payments, gross farm income may increase around a billion dollars to a record of nearly \$52 billion. But the uptrend in farm production expenses will continue in 1969. Thus, realized net farm income may fall a little short of the \$14.9 billion estimated for 1968.

This appraisal assumes a strong advance in economic activity, though not so rapid as in 1968. It is based also on prospects for a continued large volume of exports as well as price support programs for major crops and dairy products.

In last year's outlook conference we said in part that ". . . realized net farm income in 1968 is expected to match and perhaps slightly exceed . . ." the reduced 1967 level. We were conservative for several reasons:

*We, like many others, did not foresee the record economic growth and the substantial price pressures which developed in 1968, and the freeze damage to fruit and vegetable crops last winter raised prices more than we allowed for in our estimates;

This paper draws on the work of the Economic and Statistical Analysis Division and other Divisions of the Economic Research Service, with assistance from the Foreign Agricultural Service, Agricultural Research Service, and Consumer and Marketing Service.

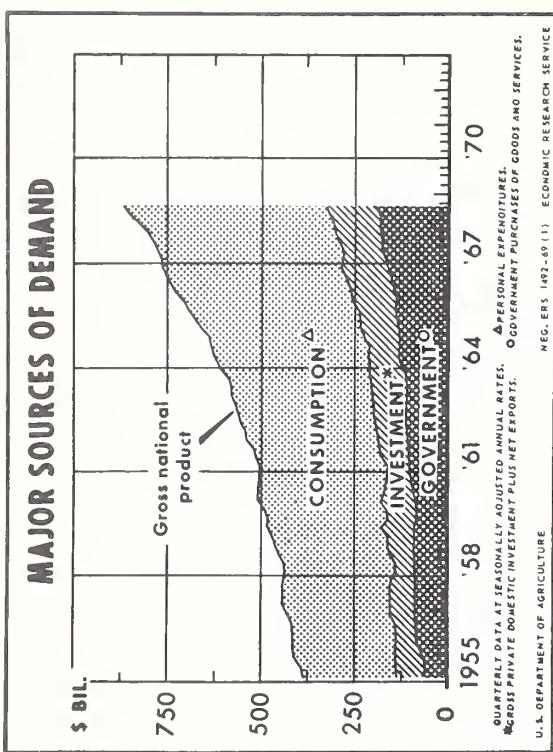


Figure 1

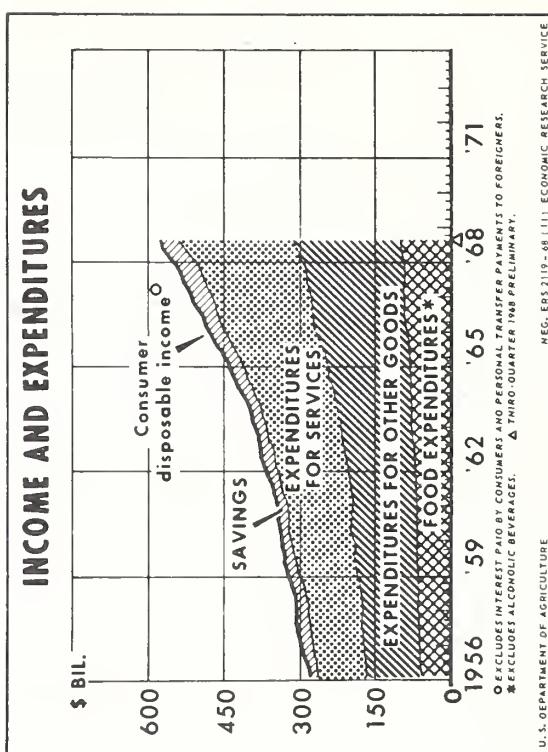


Figure 1

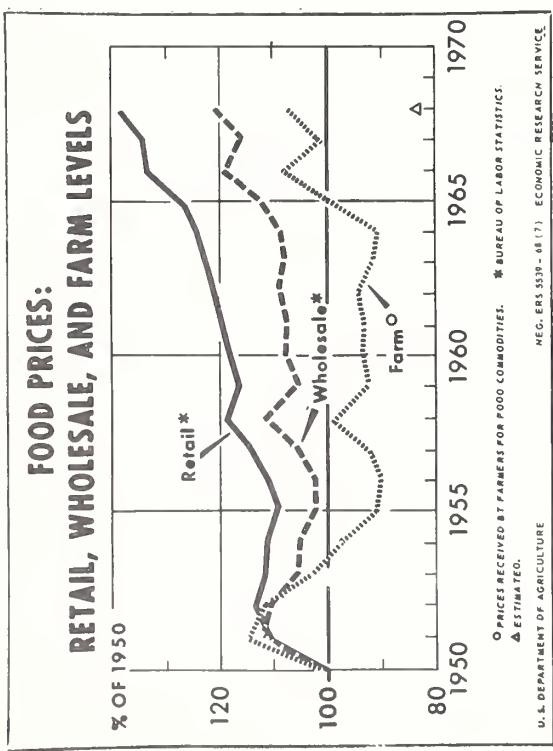


Figure 3

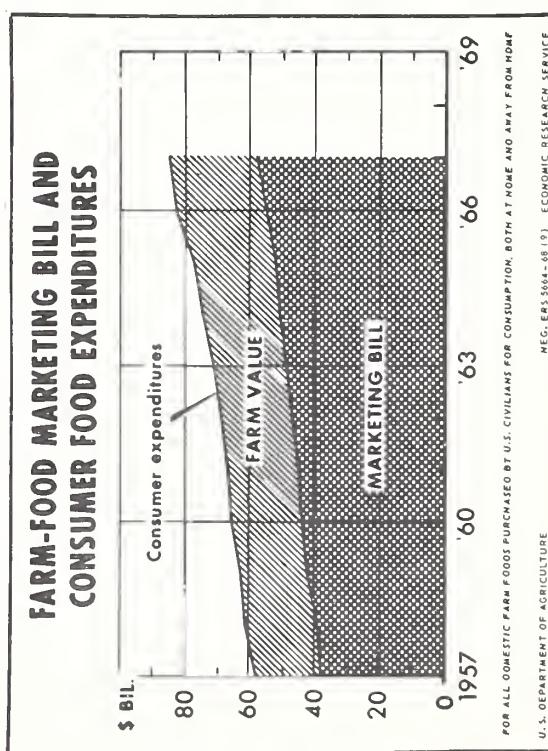


Figure 4

Figure 2

*The price effect of two program actions was greater than our assumptions allowed for: The increase in the price support for milk and the liberalizing of reseal privileges which helped bolster grain and soybean prices.

Perhaps our appraisal played a small role in some of the actions taken which helped to make our forecast too low. This is an example of one of the functions of a forecast as well as one of the many uncertainties in economic forecasting. The uncertainties which face this year's forecast in the area of policy and weather are probably at least as great as they were a year ago.

Demand for Farm Products

A sharp advance in domestic demand and little change in the volume of exports contributed importantly to higher farm prices and income in 1968. Prices rose despite larger supplies of major farm products. Economic growth and upward pressures on the general price level have important impacts on agriculture: They determine consumer buying power and thus influence demand for farm products; they affect the cost of goods and services purchased by farmers; and they are in turn influenced importantly by the nearly \$50 billion farm market for goods and services.

Domestic Demand

Economic activity continues high in the opening months of the new year. Prospective purchases by consumers and businessmen and scheduled Government expenditures bode well for continued economic expansion in 1969. But the gain in the after-tax income of consumers, though relatively large, is not expected to match the rapid advance of 1968. General price advances, too, will likely be slower during 1969. Retail food prices are expected to increase this year, but they will again rise considerably less than prices of nonfood goods and services (figure 1).

Food expenditures are expected to increase $4\frac{1}{2}\%$ to 5% in 1969, if after-tax incomes rise in the neighborhood of 6%, as projected. Such an increase from the \$101 billion in 1968 would increase food spending in 1969 by about \$5 billion. This compares with an increase of more than \$6 billion in 1968. Increases in expenditures for food this year will reflect an increase of possibly 2% in volume of sales and a further rise in retail food prices (figure 2).

U. S. AGRICULTURAL EXPORTS: COMMERCIAL AND UNDER GOVERNMENT PROGRAMS

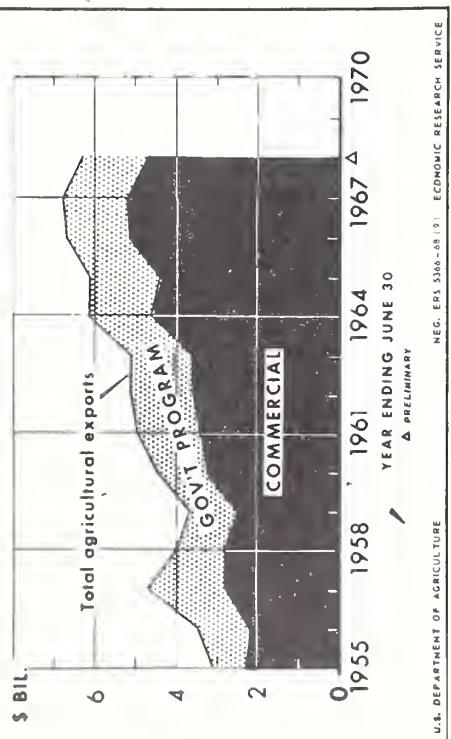


Figure 7

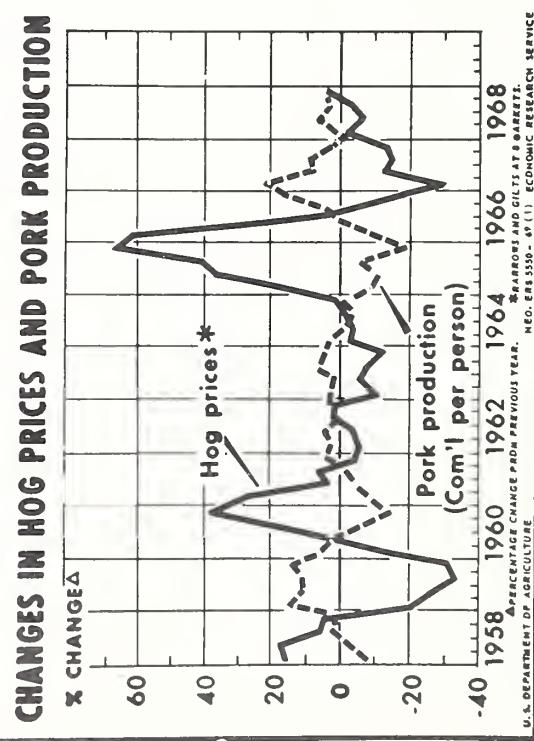


Figure 8

10 LEADING U. S. AGRICULTURAL EXPORTS, AS PERCENTAGE OF FARM SALES, 1968*

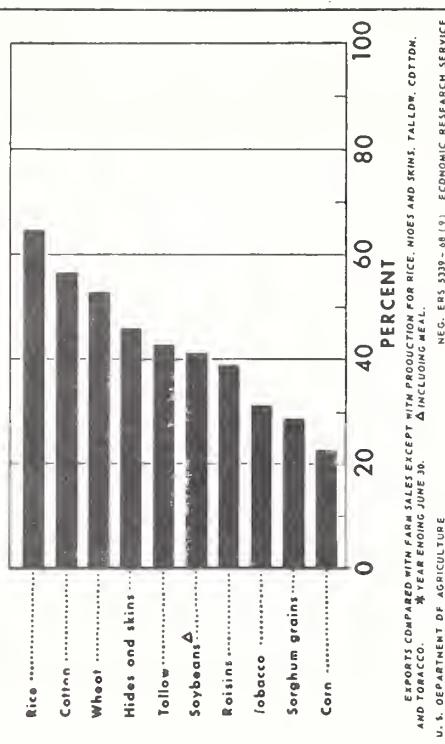


Figure 5

USES OF U. S. FOOD PRODUCTS

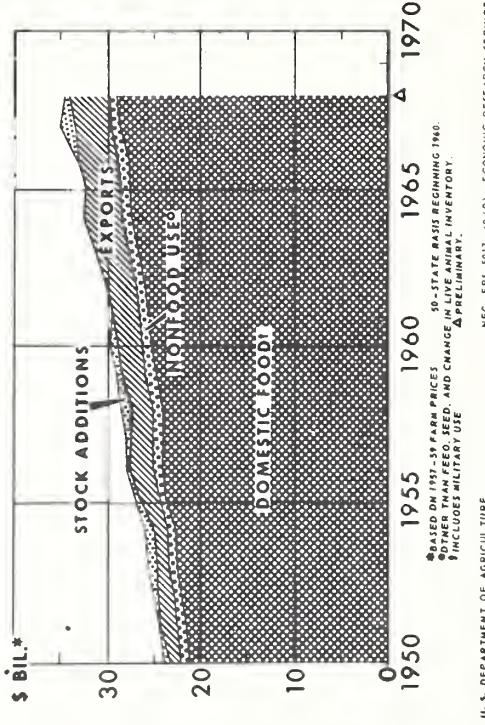


Figure 6

BASED ON 1971-54 FARM PRICES AND STATE BASIS BEGINNING 1960.
OTHER THAN FEED, FEED, AND CHANGE IN INVENTORY.
INCLUDES MILITARY USE.
U. S. DEPARTMENT OF AGRICULTURE. NEG. ERS 539 - 68 (9) ECONOMIC RESEARCH SERVICE

BASED ON 1971-54 FARM PRICES AND STATE BASIS BEGINNING 1960.
OTHER THAN FEED, FEED, AND CHANGE IN INVENTORY.
INCLUDES MILITARY USE.
U. S. DEPARTMENT OF AGRICULTURE. NEG. ERS 5017 - 68 (9) ECONOMIC RESEARCH SERVICE

Per capita use may be up around 1% from 1968. Increases in per capita consumption are indicated for beef, pork, poultry, citrus fruits, canned non-citrus fruits, and processed vegetables. Per capita use of veal and lamb will be smaller, and per capita use of eggs and dairy products may decline a little. Per capita use of fats and oils, fresh vegetables, and cereals may continue fairly steady.

Retail food prices are expected to average around 2% to $2\frac{1}{2}\%$ higher in 1969, compared with an increase of $3\frac{1}{2}\%$ last year. Such an increase for 1969 would imply only a small rise from price levels at the beginning of this year, when food prices averaged 4% above a year earlier. Farm prices for major foods may average a little below 1968, but the uptrend in costs of processing and marketing will continue in 1969 (figure 3). Moreover, a strong demand along with large food supplies often leads to a widening in farm-to-retail price margins. In 1968 about 60% of the increase in spending for U.S. foods went to processing and marketing agencies for the marketing bill; the remaining 40% went to farmers. In view of larger supplies of major foods, the farm share of increased spending for food may be smaller this year than in 1968 (figure 4).

Foreign Markets

Exports of farm products in 1968 were equivalent to around 15% of total U.S. farm output; crop exports took 20% of total farm output. Foreign markets also have become increasingly important to U.S. agriculture. In the 5 years between the averages 1959-61 to 1964-66, the volume of farm product exports increased more than $5\frac{1}{2}\%$ per year. But there was little change from 1967 to 1968, and more of the same is in prospect for 1969.

Exports have been the most rapidly expanding sector of the market for farm products in the postwar period until the past 2 years. In the 1967/68 marketing year, exports accounted for more than half of total sales of wheat, cotton, and rice, and 1/4 to 1/2 of our sales of soybeans (including products), tobacco, corn, and sorghum grain (figure 5).

Imports, too, have risen over the years; and the rise accelerated in the last half of 1968. Around 40% of imports consist of such products as coffee, bananas, tea, rubber, carpet wool, and other products which do not compete directly with U.S. production. Preliminary estimates for 1968 show that the volume of imports was equal to about $13\frac{1}{2}\%$ of total farm output (figure 6).

EGG PRODUCTION AND FARM PRICES: PERCENT CHANGE FROM PREVIOUS YEAR

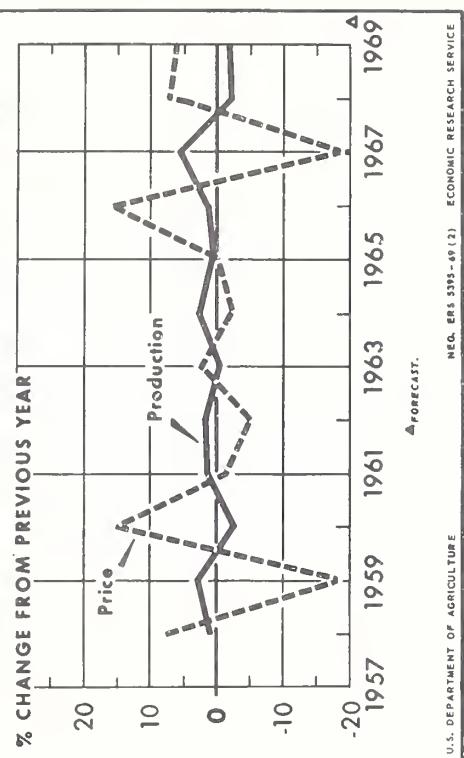


Figure 9

FEED GRAIN PRODUCTION AND USE

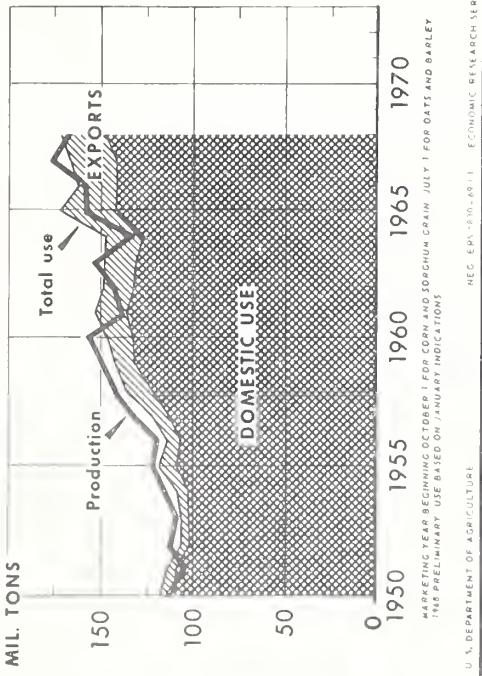
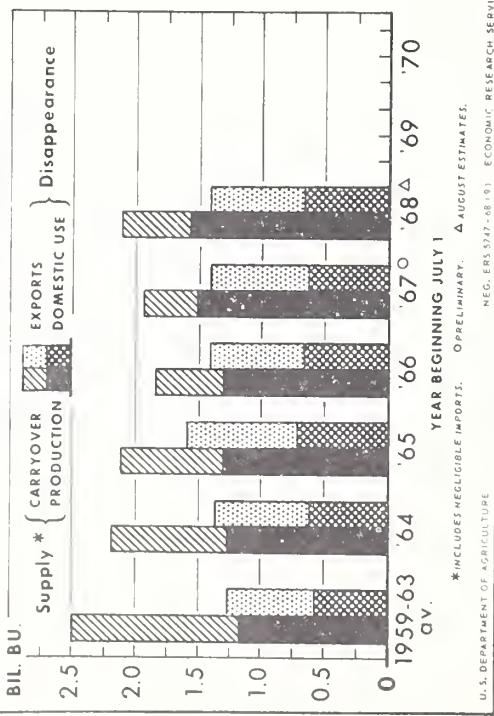


Figure 11

WHEAT SUPPLY AND DISAPPEARANCE



* INCLUDES NEGLIGIBLE IMPORTS. ▲ AUGUST ESTIMATES.

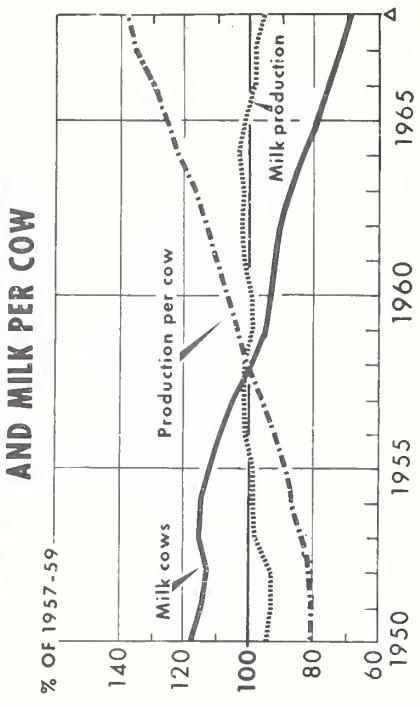
▲ PRELIMINARY. △ AUGUST ESTIMATES.

△ PRELIMINARY.

△ AUGUST ESTIMATES.

Figure 12

MILK PRODUCTION, COW NUMBERS, AND MILK PER COW



▲ FORECAST.

NEC. ERS 5395-69 (2) ECONOMIC RESEARCH SERVICE

Figure 10

The near-term outlook for U.S. exports points to a small decline in the 1968/69 volume from the year-earlier level. Exports are expected to be smaller than in 1967/68 for such major crops as wheat, rice, cotton, and feed grains. They will likely be larger for oilseeds, animal products, fruits, and vegetables and about the same for tobacco. The slowdown in U.S. exports in recent years has been due largely to an increase of 20% in world grain production in the past 3 years. Large, widely distributed grain crops have contributed importantly to reduced exports of wheat and to smaller food aid shipments in recent months. But, as developed in earlier sessions, many other factors complicate the near-term world trade outlook (figure 7).

Livestock Product Supplies and Prices

There are solid reasons for expecting that the uptrend in livestock production not only will continue, but probably will accelerate in coming months. An expanding domestic market, higher prices for livestock, and relatively low feed costs in 1968 set the stage for further advances in livestock production. Moreover, reports on the number of livestock on feed, pig crops, and poultry hatches portend relatively large increases in supplies of red meat and poultry well into 1969. Despite larger supplies, an expanding domestic market is expected to maintain average livestock product prices this year around 1968 levels.

Meat Animals and Poultry: Cattle feeders reported 10% more cattle on feed in January, which could lead to increases in fed beef production of possibly 7% or 8% in coming months. Even with smaller gains for nonfed beef and little change in cow slaughter, the gain in total beef production will be larger than in the first half of 1968. Hog numbers indicate that the pork production rate also may run 4% to 5% above a year earlier. And supplies will continue larger through the year if the spring pig crop increases by 5% as now estimated (figure 8).

Broiler output in the first half, according to advance supply indicators, may run at least 5% above the first half of 1968. Large cold storage stocks are maintaining turkey supplies, and producers reported their intention to increase the main crop this fall by 3%.

Meat animal prices are currently strong, with producer prices in mid-January averaging about 8% above a year earlier, despite rising production. As meat and poultry production increases, fed cattle and hog prices may decline some from levels in recent weeks. Even so, continued strong markets for meats this year likely will hold average producer prices for meat animals about the same as in 1968. Broiler prices may average a little below 1968.

Eggs and Milk: Egg production, running below a year earlier since mid-1968, may trail the 1968 rate into next summer. At that time the expected larger number of layer replacements will begin moving into the laying flock. Producer prices are sharply above early 1968, but the margin will likely narrow if egg production increases as expected.

The downtrend in milk production is expected to extend into 1968. Although output per cow likely will rise further, this probably will be offset by a further decline in the number of dairy cows. Since requirements for commercial use and export are expected to continue around 1968 use, CCC probably will make smaller purchases of dairy products in 1969. Producer prices for milk will continue above 1968 levels at least until April and are expected to average a little higher for the year (figure 10).

Crop Supplies and Prices

Supplies of major crops for the 1968/69 marketing year are generally larger than a year ago. Crop output increased around $2\frac{1}{2}\%$ in 1968 to a record level and carryin stocks were larger for many crops. However, an expanding domestic market and price support programs for major crops are expected to maintain grower prices in 1969 near last year's level.

Little can be said at this time about 1969 crops. The cotton program is designed to encourage a sizable increase in production in line with prospective use. The 1969 wheat acreage allotment was reduced 13% from 1968, and the estimated production of winter wheat is down about a tenth. Provisions of the 1969 feed grain program are much the same as last year's. If growing conditions are average or better, combined crop output this year is expected to total above the record 1968 crop.

Feed Grains and Wheat: The 1968/69 supply-use balance for feed grains will likely be closer than in the past few years. Supplies are slightly larger because of larger carryin stocks. Rising livestock production and relatively favorable livestock-feed price ratios may increase domestic use by some 5 or 6 million tons from 142 million in 1967/68. But exports trail last year and may run 5% to 10% smaller for the year. Even so, combined domestic use and exports may total slightly larger than production and shade the carry-over accordingly (figure 11). Prices of feed grains have increased 10% since October, and in January they averaged near the loan rate. Smaller "free" supplies of grains should help to support prices and perhaps strengthen them a little.

The wheat supply for 1968/69 is a record. It consists of larger carryover stocks and a record 1968 crop. With a sharp increase in use for feed, domestic use of wheat is expected to be larger than in 1967/68. But exports are running well below last year, due primarily to reduced food aid shipments. With a heavy movement of wheat into the loan program, prices have recovered from early-season lows. The present supply-use balance suggests prices for the marketing year likely will average close to the \$1.25 per bushel loan rate (figure 12).

Soybeans: A record 1968 crop and resulting larger supplies for 1968/69 are in excess of prospective crush and exports. Utilization is expected to increase moderately from 1967/68, but much less than the increase in supply. As a result, end-of-season carryover stocks may total more than 300 million bushels compared with 167 million last September.

Depressed soybean prices during September-January were accompanied by a record movement of beans under the CCC loan program. For the remainder of the marketing year, producer prices likely will average near the support rate (figure 13).

Cotton: The 1968 cotton crop was nearly 50% larger than the small 1967 crop. But with a much smaller carryin, total supplies for the 1968/69 marketing year were smaller than a year earlier. Exports in the closing months of 1968 were down about a fourth from a year earlier, and for the year they may total more than a million bales less than the 4.2 million in 1967/68. Domestic use also is running a little smaller. But total utilization is expected to exceed the 1968 crop and result in a small reduction in next August's carryover.

Fruits and Vegetables: Supplies of most fresh and processed vegetables are substantially larger than a year ago. Record canned and frozen vegetable packs have depressed wholesale prices below year-earlier levels.

The 1968/69 citrus crop is nearly a third larger than last year, but freeze damage has reduced the yield of orange juice. Although holding up moderately well, prices average below the highs of a year ago. Most noncitrus fruit supplies, except for apples, also are larger than last year, and prices are running lower (figure 14).

Potato supplies are off moderately from record supplies last year; prices average sharply higher in the West and are up some in the Midwest and East.

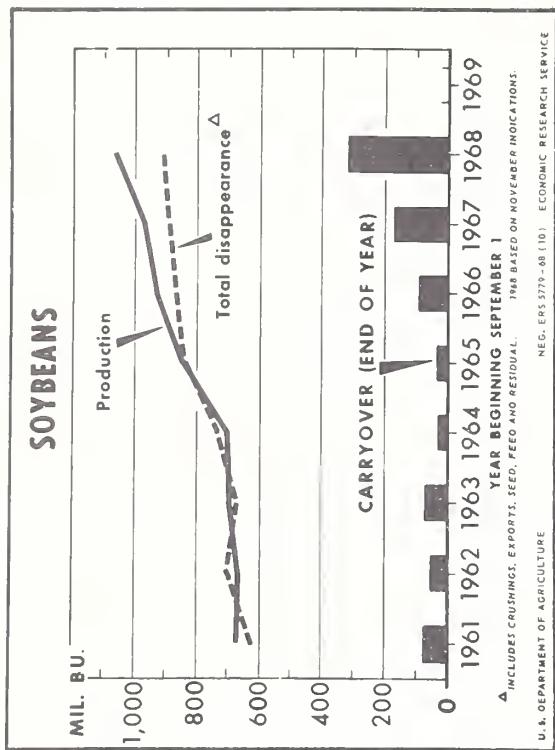


Figure 13

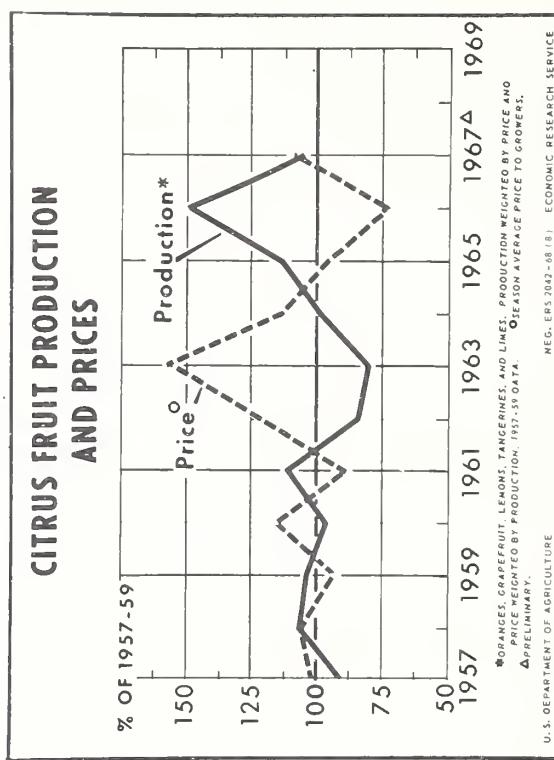


Figure 14

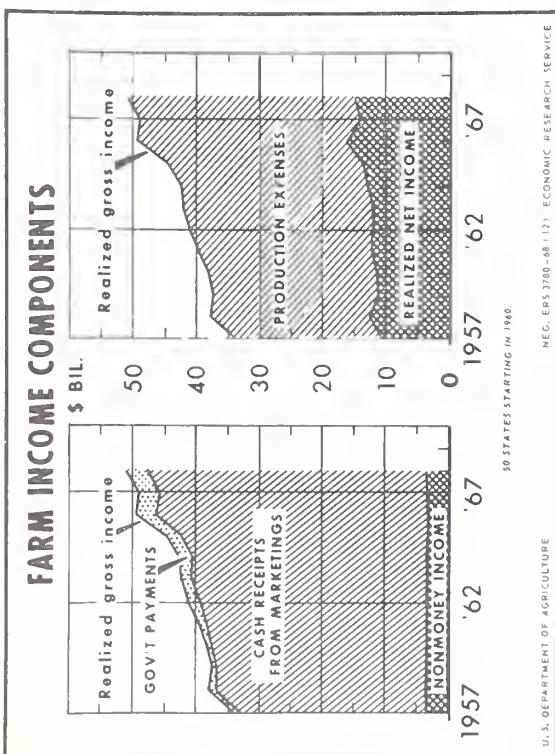


Figure 15

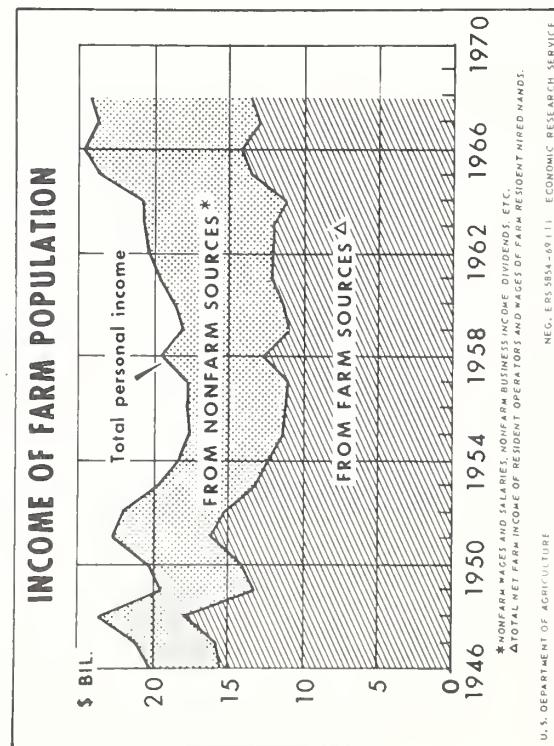


Figure 16

Farm Income and Financial Situation

The financial position of many farmers improved during 1968. Gross farm income rose enough that realized net income increased 5% from 1967. Proprietors equities in farm assets also increased, due primarily to a further advance in the value of land and buildings.

Realized gross farm income is expected to increase again in 1969. Crop prospects for 1969 are still very uncertain, but another large crop in 1969 would mean a larger volume of crop marketings. Output prospects for livestock also point to an increase in marketings larger than the gain in 1968. If prices are maintained as expected, larger marketings will increase cash receipts. With a small increase in Government payments to farmers, gross income may increase around a billion dollars from the \$50.8 billion in 1968 (figure 15).

The persistent rise in farm production expenses will continue this year. Prices paid by farmers for the goods and services used in production will increase further. Rising costs and larger farm purchases of feed and livestock will increase farm production expenses, possibly by more than the \$1.1 billion estimated from 1967 to 1968. As a result, realized net farm income is expected to be down a little from the \$14.9 billion estimated for 1968.

The long-term downtrend in the number of farms and in the farm population continues. Farm numbers may drop below 3 million units in 1969. The farm population is expected to be down around 10 million to about 5% of total population. With fewer farms, income per farm may change little from 1968. Per capita disposable income of farm people this year, a growing share of which comes from nonfarm sources, is expected to increase some from 1968 (figure 16).

I would like to conclude with a short recapitulation of the outlook:

*We feel that larger supplies of major farm products, and especially foods, are virtually assured for this year, barring poor growing conditions or some natural disaster.

*We consider a middle course as most likely for the general economy with a further expansion in demand, but not such a rapid advance as in 1968.

*We expect domestic use to increase in 1969, but foreign markets may buy a little less from the U.S.

*We assume that loan programs will limit "free" supplies and maintain prices of grains and soybeans.

*Thus, we return to the general conclusion of this outlook appraisal: Farm prices are expected to about match 1968 levels, marketings will be larger, and net farm income may be down a little from 1968.

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

OUTLOOK FOR LIVESTOCK AND POULTRY

Talk by Donald Seaborg and O. C. Hester
Economic and Statistical Analysis Division
at the 46th National Agricultural Outlook Conference
Washington, D.C., 9:15 A.M., Wednesday, February 19, 1969

Total production of red meat and poultry is expected to rise in 1969. More beef, pork, broilers, and turkeys are likely. But supplies of eggs, lamb and veal are expected to be smaller.

Red meat production continued to increase in 1968, but output of turkeys and eggs declined. Broiler production was up slightly. Beef and pork accounted for all of the increase in red meat production; veal and lamb declined.

The increase in beef production over the years has been spectacular. Beef production has more than doubled in less than two decades. The substantial growth in the beef cattle herd and rapid expansion of cattle feeding account for the increase in beef production. Pork production has increased during the past 3 years, but veal and lamb production have continued to decline. Larger imports have also increased meat supplies.

Red meat consumption in 1968 totaled nearly 183 pounds per person, a new record. Beef accounted for about 110 pounds of the total. But in contrast to some other years when beef supplies and total meat supplies were record large, prices in 1968 for both cattle and lambs averaged higher than in other years since 1952. Also, hog prices declined only slightly, instead of dropping sharply as they often have in the past when pork and other meat supplies increased significantly.

The rapid uptrend in broiler consumption was interrupted in 1968. Broiler production last year rose just enough to offset population growth. Thus, consumption was nearly the same as the 33 pounds per person consumed in 1967. However, broiler consumption last year was considerably higher than 10 years earlier when consumption averaged 22 pounds per person.

Prices of broilers, turkeys and eggs all averaged higher in 1968. This price strength reflected smaller supplies of turkeys and eggs and rising incomes. Supplies of competing meats were up.

This more encouraging market situation indicates that consumer demand for meat, particularly beef, is increasing. Thus, consumers have been willing and able to buy more meat at higher prices in recent years. This development reflects increased incomes and population growth. This stronger demand for meat has resulted in higher livestock prices, or smaller than usual price declines as production expanded.

Among other developments that emerged in recent years and continued in 1968 were declines in veal, lamb and egg production, and less change in hog production in response to changes in hog prices.

Cattle

Fed cattle marketings in 1968 were the largest on record--23.0 million head, up 6 percent from 1967 and more than twice the number marketed 10 years ago. A further sizable increase is in prospect for 1969. The sharpest increases in fed cattle marketings over a year earlier are likely to be in the first half.

Commercial cattle slaughter totaled 35.1 million head--about 3 percent more than in 1967 and a 49 percent increase in the past decade. Steer slaughter (estimated commercial) increased 2 percent over 1967, heifer slaughter was up 8 percent, and 1 percent more cows were slaughtered. Calf slaughter continued to decline in 1968. Commercial slaughter of calves totaled 5.4 million head, 8 percent below a year ago and the smallest since 1915.

Prices of all classes of cattle averaged higher than in 1967. Fed cattle prices fluctuated during the first 6 months, but the trend in the second half was generally up. Prices of Choice steers at Chicago rose from around \$26.90 in January--\$1.60 above a year earlier--to \$28.90 in December--\$2.45 above December 1967.

The number of cattle and calves on farms increased slightly during 1968 to 109.7 million head at the beginning of this year. An increase in the beef herd (1.2 million head) more than offset a decrease (0.6 million head) in the number of dairy animals on farms.

Cattle slaughter in 1969 is expected to be larger than in 1968. The slaughter mix will change slightly. Steer and heifer slaughter volumes are expected to increase again in 1969 and to account for a slightly larger proportion of total slaughter. Fed cattle marketings are expected to continue well above a year earlier as a result of the continued expansion in beef cattle numbers and cattle feeding. No sharp change in the level of cow slaughter is anticipated.

Cattle feeders have said they expect to ship 6 percent more fed cattle during January-March than a year earlier. This would also be 9 percent more than in the fall. Furthermore, these cattle will be heavier than a year ago by late winter if marketings are not up more than the 6 percent planned by cattle feeders, since the number of heavy cattle on feed January 1, was up 10 percent. Fed cattle marketings in the spring are expected to continue above a year earlier since there were 10 percent more light-weight cattle on feed on January 1.

Broiler production also is expected to be larger than in January-June 1968, but supplies of veal and lamb and mutton likely will be down. Consumer incomes in the winter and spring are expected to increase less rapidly than the very sharp gains in the second half of 1968. Thus, cattle prices likely will soften in late winter but average well above January-March 1968 prices, when Choice steers at Chicago averaged \$27.30. In the spring, fed cattle prices are expected to average lower than early-winter prices, but to be near or above those a year ago when steers were just over \$27 per 100 pounds.

Cow slaughter (estimated commercial) was about 1 percent larger in 1968 than in 1967. Prices of Utility cows at Chicago averaged about \$18.50 per 100 pounds in 1968--up nearly \$1 from 1967 and highest since 1952, when prices averaged \$19.50. Prices rose from \$16.35 per 100 pounds in January to over \$19.50 in June, then tapered off seasonally to around \$17.35 by the end of the year, \$1.25 above December 1967.

Cow slaughter in 1969 is expected to run about the same as a year ago. Culling of dairy cows may be a little lighter, but beef cow slaughter is expected to be slightly larger. Utility cows at Chicago in late January were \$18.10 per 100 pounds, about \$1.75 higher than a year ago. Cow prices are expected to continue above a year earlier through mid-year.

Feeder cattle prices advanced in the first half of 1968, then declined seasonally after July, but rose again toward the end of the year, about to summer levels.

The supply of feeder cattle is somewhat smaller this year than in 1968. The 6 percent increase in fed cattle slaughter last year and the 10 percent increase in number on feed January 1 more than offset the larger 1968 beginning feeder cattle inventory, the 2 percent increase in the size of the 1968 beef calf crop and somewhat larger imports of feeder cattle during the year. However, even though the feeder cattle supply is somewhat smaller, the supply of young cattle is sufficient to support a further expansion in cattle feeding.

In late January, yearling feeder steers at Kansas City were \$28.35 per 100 pounds, \$2.50 above a year earlier and about \$1 below 900-l,100

pounds Choice slaughter steers at Chicago. Feeder cattle prices are expected to continue steady to strong this winter and spring because the demand for feeder cattle will continue brisk and the supply may be down.

Hogs

The expansion in pig crops that began in early 1966 is continuing this year. The current expansion, however, is more moderate than in some earlier periods of expansion. For example, the annual pig crop increased 11 percent in 1966, 5 percent in 1967, and 3 percent in 1968 compared with an increase of 23 percent in the first two years of a prior expansion period that began in 1954.

Pork production was up 4 percent in 1968. Consumption averaged just under 66 pounds per person, about the same as in 1963 and 1964 when hog prices were low. But 1968 consumption was larger than in any other year since 1959. However, hog prices in 1968 averaged only slightly lower than in 1967. Barrows and gilts at 8 markets were \$19.20 per 100 pounds in 1968, about 20 cents less than a year earlier. This minor price decline reflects strong consumer demand last year.

Increases in hog slaughter this year may be a little sharper than in 1968, when slaughter was up 4 percent. In January, hog slaughter was running 4 to 5 percent larger than a year ago. It is expected to continue above a year earlier in the spring.

Prices of barrows and gilts in January were \$19.60 per 100 pounds at 8 markets, about \$1 higher than a year earlier. A decline in hog prices is likely before the usual spring and summer price advance. Last spring the seasonal rise was unusually late. This spring it is expected to start a little earlier.

Hog prices in the first half of 1969 will be under pressure, not only from larger pork supplies, but also from larger supplies of both beef and poultry. Also, increases in consumer incomes probably will not bolster hog and other livestock prices as much this year as last. While incomes likely will continue to rise this year, the rate of increase probably will be slower. Thus, hog prices late this winter and in the spring may average lower than a year earlier.

Hog slaughter next summer and fall also is expected to be expanded. Hog producers said last December that they planned to have 5 percent more sows farrow during December 1968-May 1969. If these plans are carried out, second half slaughter will run moderately larger than in 1968.

Hog prices in the second half are expected to average somewhat lower than prices in the second half of 1968, when barrows and gilts at 8 markets

averaged \$19.40 per 100 pounds. Lower prices will generally reflect larger pork supplies. In addition, fed cattle marketings are expected to remain large, and supplies of poultry likely will continue above a year earlier.

Sheep and Lambs

Commercial slaughter of sheep and lambs declined again in 1968 to a total of 11.9 million head, down about 7 percent from 1967. However, even with reduced slaughter, the liquidation of the sheep and lamb inventory, underway since 1960, continued. On January 1, 1969 there were 21.1 million sheep and lambs on farms, about a million less than a year earlier.

With fewer lambs on feed and prospects for a smaller 1969 lamb crop, slaughter during 1969 is expected run below a year earlier.

Slaughter lamb prices were up throughout 1968. Choice slaughter lambs at San Angelo averaged \$25.70 per 100 pounds, \$3.00 above the 1967 average. Prices rose sharply through the winter and early spring and reached a peak near \$29.50 in mid-April. Prices then dropped to \$23.50 in midsummer, rose again in late summer, and ranged between \$25.50 and \$26.50 through the fall.

Choice feeder lamb prices averaged \$1.60 below slaughter lambs in 1968, but followed the same general pattern.

Slaughter lamb prices in the first half of 1969 are expected to average above a year earlier. Feeder lambs likely will continue below slaughter lamb prices although the margin over a year earlier may narrow. Lamb prices probably will follow generally a typical seasonal pattern in the first half of 1969. Prices may weaken during the winter, then strengthen in the early spring before tapering off in late spring and into the summer.

Broilers

Broiler production was up only about 1 percent in 1968, one of the smallest year-to-year increases on record. In response to lower production costs and higher broiler prices during the year, broiler meat production increased in October-December. Production is continuing to increase this year, with output up 4 to 5 percent this winter and even larger increases expected in the spring.

Broilers shared in the rising demand for meats in 1968. For example, broiler prices last year (wholesale, ready-to-cook in 9 cities) averaged 27.1 cents per pound, 1.5 cents higher than in 1967. Prices rose even though broiler supplies were up a little and the supply of red meats was larger.

In January, prices averaged above 27 cents and are continuing above prices last winter. With increasing broiler output and stronger competition from red meats, broiler prices will likely fall below prices a year earlier in the spring and continue below the rest of the year.

The cost of broiler feed averaged \$89 per ton in 1968, about \$4 less than in 1967. However, higher costs of broiler chicks, labor, equipment, and interest were partly offsetting.

Production costs are expected to be moderately higher in 1969. Chick prices may average a little higher in the first half of 1969 than a year earlier. Costs of other production items combined--including labor, interest, and equipment--will also likely increase, but at a slower pace than in 1968.

Turkeys

The number of turkeys raised in 1968 was cut 16 percent below the very high level of a year earlier. However, a record large carryover of turkeys in cold storage resulted in large supplies and severely depressed prices in the first half of 1968.

An increase in turkey production this year is likely because the relationship between feed and turkey prices in 1968 was more favorable than a year earlier. Growers have stated intentions to produce 3 percent more turkeys in 1969. In the past grower production plans in January have usually been a fairly reliable indicator of the number raised during the year. However, USDA in its Turkey Marketing Guide, issued in December, suggested no increase over 1968.

Live turkey prices averaged 20.3 cents per pound in 1968, almost 2 cents above a year earlier. Prices increased gradually from a low in February of 18.5 cents to 21.4 cents in November. Prices weakened in December and again in January to 20.4 cents per pound. With another large carryover at the beginning of this year, prices may hold near this level through most of the first half. If producers increase output about 3 percent in 1969, as indicated by grower intentions and the production response to cost-price relationships in the past, prices in the main marketing season will likely show no improvement over the 21 cents received in the same period last year.

Turkey feed prices in the first half of 1969 are expected to increase seasonally and to average higher than in the same period last year. Poult prices during the heavy hatching period (March-June) will likely average slightly above those of a year earlier. Combined costs of other items of production also are expected to increase in 1969 but at a slower rate than in 1968.

Eggs

Egg production in 1969 may total slightly below 1968 levels. Production at the beginning of the year was 4 percent under the high level of a year earlier. But output will likely increase compared with a year earlier, and by year's end may be the same to moderately above late 1968.

In response to more favorable egg-feed price ratios, producers started 12 percent more replacement pullet chicks in the second half of 1968 than a year earlier. Moreover, based on feed-egg price relationships and production in recent years, producers would be expected to start 10 to 15 percent more replacement pullets in the first half of this year compared with last year. Such increases would bring layer numbers to 1968 levels in the summer and above those of last year in the fourth quarter. However, producers on February 1 indicated plans to buy 4 percent fewer baby chicks and started pullets than in 1968. Should these plans be carried out, egg production in the fall may not exceed last year's level.

Prices to producers for eggs in 1968 averaged 33.7 cents per dozen, 2.5 cents more than a year earlier. Egg prices increased sharply last summer from the depressed levels earlier in 1968. In the second half prices averaged 38 cents per dozen, about 8 cents above a year earlier.

Egg prices this year will likely be higher than in 1968. Prices will decline seasonally in the spring, but are expected to remain well above 28.6 cents per dozen in April-June 1968. But if producers add a large number of pullets to the laying flock, egg prices in the second half probably will average below the 38 cents in the second half of 1968.

The cost of producing eggs will likely increase moderately in 1969.

(*-*)

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

OUTLOOK FOR FEED

Talk by Malcolm Clough
Economic and Statistical Analysis Division
at the National Agricultural Outlook Conference
Washington, D.C., 9:40 A.M., Wednesday, February 19, 1969

The 1968/69 feeding year is expected to bring a closer balance between production and use than in most other recent years, when there have been sizable changes in carryover stocks. The 1968 crop was estimated in December at 168 million tons, 8 million tons less than the bumper crop of 1967. This was also somewhat below production prospects earlier in the growing season.

With more livestock on farms and with a continuation of favorable live-stock/feed price ratios, domestic use is expected to be higher than in 1967/68-- maybe up by 5 or 6 million tons from the 142 million in 1967/68. Exports are lagging those of a year ago and for the entire year may be 5 to 10 percent below the 23 million tons exported last year. Total disappearance, however, is expected to be slightly above 1968 production. This would leave a little smaller carryover at the close of the 1968/69 marketing year.

An important change in the feed situation this year has been the larger stocks held under Government programs. On January 1, 39 million tons of feed grains were under loan or owned by CCC, 13 million tons more than a year ago. Larger Government stocks indicate a tighter supply situation for the remainder of the marketing year and smaller "free" carryover stocks than in either of the past 2 years. This should give firmer feed grain prices this spring and summer than in 1968.

It is too early to look with much assurance to prospects in 1969/70. Much still depends on farmers' response to the feed grain program and the 1969 growing season. Provisions of the 1969 Feed Grain Program, announced last December, are basically the same as for the 1968 Program. The major change was to extend the program to include acreage diversion for barley. The program has for its objective the diversion of 37 million acres of corn, grain sorghum, and barley to soil-conserving uses so as to bring 1969 production a little below requirements and obtain some further reduction in carryover stocks at the close of the 1969/70 marketing year.

The 1968/69 feed grain supply is estimated at 216 million tons, a little larger than in 1967/68. The 11-million-ton larger carryover accounted for all

the increase--more than offsetting the smaller crop. While the total feed grain supply has tended to drift downward since 1960/61, the "free" supply (production plus "free" carryover stocks) has increased. The "free" supply reached a peak of 195 million tons in 1967/68, then dropped to 187 million tons this year. Government stocks, on the other hand, have been declining, reaching a low of less than 20 million tons at the beginning of 1967/68. The bumper crop in 1967 and increased price support activity brought an 11-million-ton increase in Government stocks at the beginning of the current marketing year.

Both production and use of feed grains have trended upward during the past 20 years. Production exceeded total use during most of the 1950's. During most of the 1960's, however, production has been reduced below our total requirements and stocks have been reduced to the current level of about 48 million tons. While domestic use has increased about a third since the mid-1950's, exports also have contributed significantly to the heavier total use, rising to 4 times those of 15 years ago. The 1968 production, while smaller than in 1967, still was second largest of record. Increased domestic use in 1968/69 is expected to push total disappearance to a little above the 1968 crop. This is in contrast to 1967/68 when the bumper crop added 11 million tons to carry-over stocks.

Two trends have had an important place in the feed situation during the past 20 years. The first is in yield per acre which has gone up at an annual rate of nearly 6 percent since 1954. The second is in total utilization. It has increased about 3.5 percent annually during this period. The disparity between these trends has been basic to the problem of overproduction in feed grains since World War II. It has been largely responsible for Government programs relating to feed grains during this period.

In the period 1959-63, feed grain production took care of our total requirements with acreage about 10 percent below levels of the previous decade. Yield in this period averaged about 50 percent higher; production and utilization were up about 35 percent. The disparity between yield and utilization increased further during the past 5 years. Yields are now nearly double the 1949-53 average, while our total utilization has gone up a little over 50 percent. During 1963-67, production would have taken care of our total requirements with acreage about 20 percent less than in the period 1949-53.

Because of the greater gain in yield per acre than in total utilization, a substantial acreage has been diverted from feed grain production during the past 15 years. Even with the moderate reduction in feed grain acreage realized during the 1950's, production exceeded utilization in much of that period. With 20 to 35 million acres diverted from feed grains under the Feed Grain Program during the 1960's, production has been reduced below utilization, thus bringing a substantial reduction in feed grain stocks. The race between yield and total use may be expected to continue. Based on recent experience, it does not appear likely that the gap will narrow in the near future.

The 1968/69 corn supply is now estimated at a little over 5.5 billion bushels, or slightly smaller than the 1967/68 supply. The estimate of the 1968 crop was reduced about 260 million bushels from September to December as yields

turned out lower than anticipated, especially in the Eastern Corn Belt. With more hogs and cattle to be fed this year, domestic use is expected to be a little heavier than in 1967/68. Exports have been below those of a year earlier so far this year and probably will be a little lower for the entire marketing year. Our total use, however, is expected to be a little above 1968 production, resulting in a smaller carryover next October 1--probably around 100 million bushels less than the 1,146 million carried over last year.

Corn prices have advanced 12 cents per bushel since the early seasonal low reached last October. In January, the average price received by farmers was a little higher than a year ago and 3 cents above the 1968 loan rate. Much more of the stocks of corn now on hand are under loan or owned by CCC, and "free" stocks are smaller than during the past 2 years. This will give strength to corn prices during the spring and summer, unlike a year earlier when corn prices were especially weak during July-September. On the other hand, the rise in prices during the next few months will be limited to some extent by the large quantity of corn held under the loan program which may be redeemed if corn prices advance materially above the loan rate.

The 1968/69 grain sorghum supply was estimated in December at 1,031 million bushels, about 3 percent larger than in 1967/68. Grain sorghum production has been below our total utilization in most recent years, reducing carryover stocks from over 600 million bushels in the early 1960's to below 300 million bushels in the past 2 years. While domestic use continued large in 1967/68, exports dropped sharply as the result of reduced shipments to India and smaller commercial movement. Domestic use in 1968/69 probably will be above last year's level--with increased cattle feeding in the Southwest. But exports are expected to decline further--they may be around a fourth smaller than the 166 million bushels shipped in 1967/68. Total disappearance should about equal the 1968 crop, leaving a carryover next October 1 of around 300 million bushels--or close to that at the beginning of the marketing year.

Feed grain exports trended steadily upward from 1954/55 to 1964/65. In 1965/66 they jumped sharply as a result of smaller supplies abroad and generally good foreign demand. With larger crops in both deficit and surplus countries in 1966/67 and 1967/68, exports dropped sharply and fell somewhat below the trend level of the previous 12 years. Prospects for exports are again not too promising for 1968/69. Feed grain production in Europe is about as large this year as last, and larger carryover stocks are on hand. The dock strike resulted in very low exports during January. While much will depend on the duration of the strike and on the outcome of the 1969 feed grain crops in Argentina and South Africa, U.S. exports for the entire marketing year may be about 5 to 10 percent less than the 23 million tons shipped in 1967/68.

Consumption of high-protein feeds in 1968/69 is now expected to be a little above the 1967/68 level--both in total and per animal unit. Demand for these feeds has been strong. October-December feeding increased about 7 percent over that of a year earlier, with prices averaging about the same. Even with the larger cottonseed meal supplies--up about a third from last year's small supply--soybean meal feeding also has been larger so far this year. The quantity of soybean meal fed this year is expected to be 2 or 3 percent over the 10.8 million

tons fed in 1967/68. The increase in soybean oil prices in recent months has enabled crushers to reduce meal prices and crush at a high rate. Soybean meal prices in January were 7 percent lower than a year earlier; the index of all high-protein feed prices was 4 percent lower. Ample supplies of soybeans available for crushing are expected to lend stability to soybean meal prices during the remainder of the feeding year and prices are expected to average a little lower than in 1967/68.

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

OUTLOOK FOR DAIRY

Talk given by Anthony G. Mathis
Economic and Statistical Analysis Division
at the Annual Agricultural Outlook Conference
Washington, D. C., 11:15 A. M., Wednesday, February 19, 1969

U.S. milk production this year likely will be slightly lower than the 117.3 billion pounds of 1968. Since the present price support level and the current Class I pricing in Federal order markets have been continued through 1969, prices farmers receive and gross cash receipts from dairying likely will be up from 1968 record levels.

Dairy price supports, as announced in December 1968, are at the same level for the 1969/70 marketing year (beginning April 1, 1969) as in 1968/69--\$4.28 per 100 pounds of manufacturing grade milk. However, this level in the first quarter of 1969 is 28 cents above the one that applied during the first quarter of calendar 1968.

Together with higher Class I prices in Federal orders, the higher support level is raising milk prices farmers receive in the first quarter of 1969 about 5 percent above those of a year earlier. Smaller gains are in prospect for the second quarter. In the last half of 1969, a tighter supply-demand situation than a year earlier likely will cause a larger seasonal price rise and higher prices than a year earlier.

Despite prospective lower farm marketings than 1968, higher prices will raise farmers' gross cash receipts from dairy marketings from last year's \$60 billion. However, increases in the cost of farm production inputs may largely offset gains in gross receipts.

Milk cow numbers last year declined $3\frac{1}{2}$ percent, to an average 13.0 million. However, the rate of decline has slowed and may be closer to 3 percent in 1969. Cattle prices may weaken some from current levels, but for the year are expected to average near the 1968 levels. They will continue to encourage substantial herd culling. However, milk prices are up this year, so the milk-beef cattle price ratio for 1969 may be more favorable to dairying than in 1968.

Feed supplies have been ample, and this winter record-high milk-feed price ratios should encourage increased feeding. But increases in milk output per cow have been below average and have not offset the decline in cow numbers. This is holding milk production below last year's levels. Pasture conditions, the quality and quantity of 1969 feed crops, and price prospects will be important determinants of milk production in the last half of 1969.

During the last half of 1968, commercial disappearance (sales) of milk in all dairy products rose above year-earlier low levels. Gains occurred in sales of virtually all major products except fluid whole milk, fluid cream, and evaporated milk. In addition to growing population, these increases reflected rising incomes, high employment levels, and steadier dairy prices than those of 1966 and 1967. Prospects for 1969 include a larger population rise than last year, a continued but slower increase in consumer incomes, and no larger retail dairy price increases than last year.

These conditions suggest a continuing rise in the overall use of milk in dairy products. Sales of fluid milk substitute products--sources of much industry concern in 1968--appear to have leveled off in markets for which we have data. However, the possibility remains that substitutes may increase their inroads on the market for higher valued dairy products.

Last year an increase occurred in CCC donations of dairy products for domestic use. This increase boosted total domestic civilian consumption of milk in all products, after the sharp drop of 1967. Prospective CCC donations for 1969 again are large. As a result, total domestic consumption is expected to rise, although per capita consumption likely will decline from the 576 pounds of 1968 at about the 1 percent long-time average rate.

Commercial exports this year likely will be near the 0.5 billion pounds milk equivalent of 1968. Supplies of dairy products in major exporting nations are abundant and are being exported at subsidized prices far below U.S. levels. Therefore, prospects are poor for expanding U.S. dairy export sales.

Imports last year fell to the equivalent of 1.8 billion pounds of milk, from 2.9 billion in 1967. The drop was brought about by quotas on dairy imports established in 1967 (under authority of Section 22 of the Agricultural Adjustment Act as amended) plus temporary quotas in 1968 on canned milk and certain cheeses. Permanent quotas on these and other products were set in December and will apply to 1969 imports. These restrictions are expected to bring imports below $1\frac{1}{2}$ billion pounds, milk equivalent, in 1969.

Last year the Commodity Credit Corporation (CCC) removed from the market a volume of dairy products equivalent to about 5 billion pounds of milk, compared with 7.4 billion in 1967. This year CCC removals are expected to be substantially less than last year. In 1968, CCC utilized more butter, cheese, and non-fat dry milk in its domestic and foreign programs than it acquired, and likely will do so again this year. Therefore, in 1968 year-end Government stocks were lower than a year earlier, and are expected to decline again this year.

Commercial stocks of dairy products at the end of 1968 also were lower than a year earlier. In response to increased commercial disappearance and lower USDA stocks, commercial holdings at the end of 1969 likely will rise from their low level at the beginning of the year.

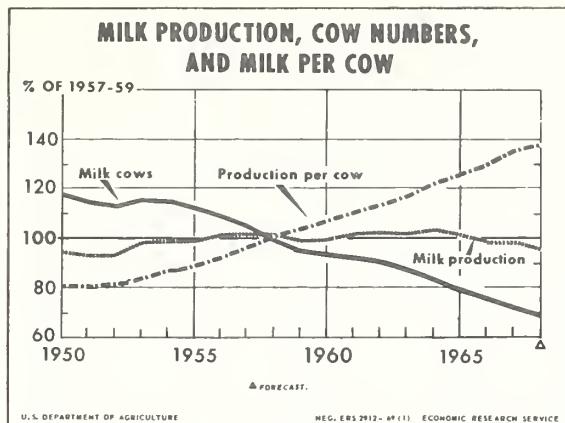


Figure 1

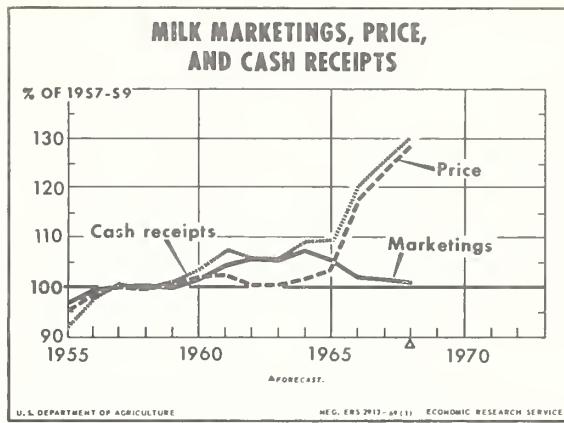


Figure 2

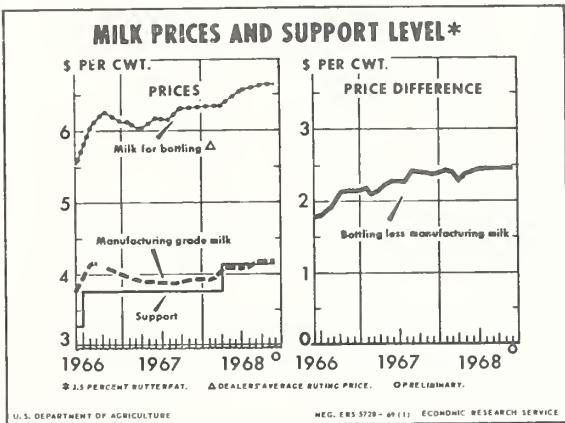


Figure 3

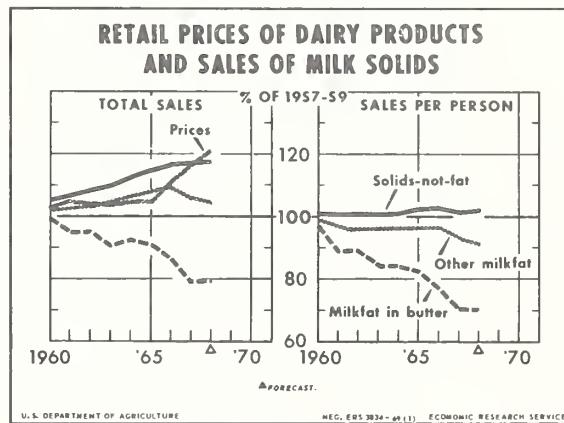


Figure 4

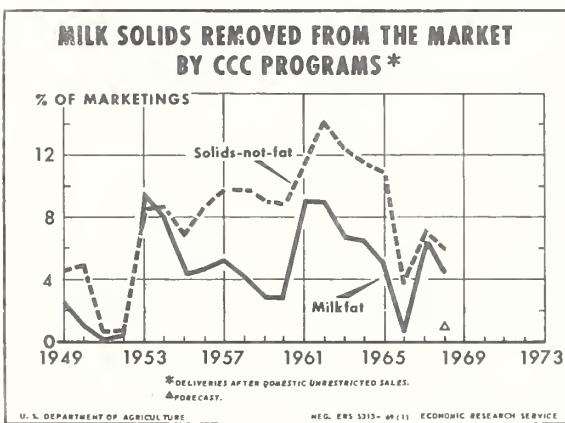


Figure 5

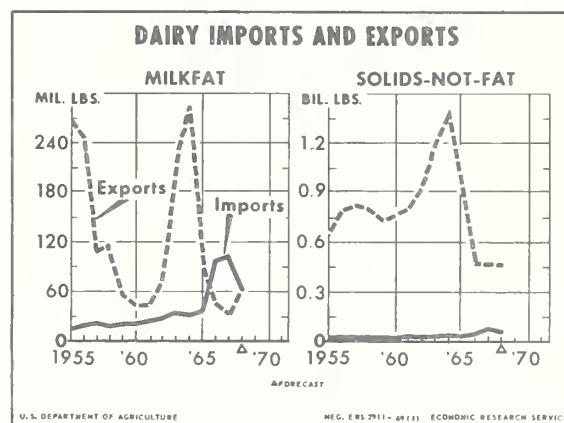


Figure 6

Table 1.--Milk production and factors affecting supply, United States, 1950-68 1/

Year	Milk cattle on farms			Milk cows on farms, average during year	Milk production per cow	Total milk production	Prices received by farmers, 1957-59=100	
	January 1						Dairy products	All farm products
	Cows and heifers 2 years old and over	Heifers 1-2 years	Calves under 1 year					
	Thou.	Thou.	Thou.	Thou.	Lb.	Mil. lb.		
1950	23,853	5,394	6,208	21,994	5,314	116,602	97	107
1951	23,568	5,493	6,337	21,505	5,333	114,681	112	125
1952	23,060	5,694	6,481	21,338	5,374	114,671	118	119
1953	23,549	5,893	6,479	21,691	5,542	120,221	104	105
1954	23,896	5,873	6,392	21,581	5,657	122,094	96	102
1955	23,462	5,786	6,094	21,044	5,842	122,945	96	96
1956	22,912	5,407	5,890	20,501	6,090	124,860	99	95
1957	22,325	5,267	5,699	19,774	6,303	124,628	101	97
1958	21,265	5,126	5,571	18,711	6,585	123,220	99	104
1959	20,132	5,050	5,526	17,901	6,815	121,989	100	100
1960	19,527	5,079	5,575	17,515	7,029	123,109	101	99
1961	19,271	5,016	5,446	17,243	7,290	125,707	101	99
1962	18,963	4,887	5,264	16,842	7,496	126,251	99	101
1963	18,379	4,708	4,935	16,260	7,700	125,202	99	100
1964	17,647	4,395	4,692	15,677	8,099	126,967	100	98
1965	16,981	4,149	4,420	14,954	8,304	124,173	102	103
1966	15,987	3,860	4,151	14,093	8,507	119,892	115	110
1967 2/	15,198	3,636	4,089	13,501	8,797	118,769	119	104
1968 3/	14,662	3,566	4,003	13,022	9,006	117,281	124	108
	Average prices received by farmers					Parity prices 4/		
	All milk whole- sale, per cwt.	Milk eligible for fluid market, per cwt.	Milk of manufacturer, per cwt.	Butting grade, per cwt.	Milkfat in milk, per cwt.	All milk whole- sale, per cwt.	Milkfat in cream, per lb.	Equivalent for manufacturing milk, per cwt.
	Dol.	Dol.	Dol.	Dol.	Ct.	Dol.	Ct.	Dol.
1950	3.89	4.36	3.16	4.86	62.0	4.32	69.2	3.82
1951	4.58	5.02	3.85	5.49	71.2	4.76	76.2	4.21
1952	4.85	5.31	4.06	5.76	75.0	4.84	76.9	4.28
1953	4.32	4.82	3.48	5.43	66.5	4.72	75.0	4.18
1954	3.97	4.45	3.14	5.15	58.7	4.75	75.0	4.20
1955	4.01	4.50	3.15	5.18	57.8	4.71	74.1	3.94
1956	4.14	4.64	3.25	5.32	59.4	4.62	72.2	3.85
1957	4.21	4.75	3.27	5.46	60.6	4.81	73.8	3.95
1958	4.13	4.66	3.15	5.40	59.3	5.02	75.4	4.08
1959	4.16	4.67	3.17	5.40	60.1	4.95	73.6	3.97
1960	4.21	4.69	3.25	5.48	60.5	5.01	74.1	4.01
1961	4.22	4.65	3.36	5.43	61.5	5.13	74.9	4.09
1962	4.09	4.54	3.20	5.35	59.4	5.25	76.2	4.15
1963	4.10	4.53	3.21	5.31	59.5	5.33	77.2	4.18
1964	4.15	4.58	3.26	5.35	60.2	5.38	77.3	4.20
1965	4.23	4.63	3.34	5.39	61.1	5.53	79.2	4.31
1966	4.81	5.18	3.97	5.82	67.2	5.73	82.1	4.47
1967 2/	5.01	5.43	4.06	6.18	68.2	5.88	84.0	4.62
1968 3/	5.26	5.71	4.23	6.50	66.8	6.06	86.1	4.79

1/ Includes available data for Alaska and Hawaii beginning 1960.

2/ Preliminary.

3/ Estimated.

4/ At beginning of marketing year.

5/ Dealers' average buying price for milk used in fluid products.

Table 2 ---Dairy: Feed costs, milk cow and other livestock prices, milk-livestock price ratios, and feed consumed, United States, 1950-68

Year	Dairy ration cost		Milk cow cost		Livestock prices and milk-livestock price ratios				
	Value per 100 pounds	Milk-feed ratio	Price received per head	Milk required to buy a cow	Beef-cattle price per 100 pounds	Manufacturing price of milk-beef per 100 pounds	Hog price per 100 pounds	Manufacturing price of milk-hog per 100 pounds	
	Dol.	Lb.	Dol.	Cwt.	Dol.	Lb.	Dol.	Lb.	
1950	3.08	1.24	198	51	23.30	0.14	18.00	0.18	
1955	3.10	1.28	146	36	15.60	.20	15.00	.21	
1956	3.00	1.36	153	37	14.90	.22	14.40	.23	
1957	3.00	1.39	166	39	17.20	.19	17.80	.18	
1958	2.89	1.41	209	51	21.90	.15	19.60	.16	
1959	2.89	1.43	233	56	22.60	.14	14.10	.23	
1960	2.88	1.45	223	53	20.40	.16	15.40	.21	
1961	2.89	1.45	224	53	20.20	.17	16.60	.20	
1962	2.92	1.40	221	54	21.30	.15	16.30	.20	
1963	3.01	1.36	215	52	19.90	.16	14.90	.22	
1964	3.01	1.38	209	50	18.00	.18	14.80	.22	
1965	3.02	1.40	212	50	19.90	.17	20.60	.17	
1966	3.14	1.53	246	51	22.20	.18	22.80	.18	
1967	3.22	1.56	260	52	22.30	.18	18.90	.22	
1968 1/	3.09	1.70	274	52	23.33	.18	18.63	.23	
Grain and other concentrates fed to milk cows				Dairy pasture feed condition, as percent of normal	Alfalfa, hay prices		Quantity fed per cow, winter feeding period ending in May 2/		
				Per 100 pounds	Received by farmers per ton	Paid by farmers per ton	Hay	Silage	Total hay equivalent
Total fed 3/				Per cow 3/ produced 4/					
Thou. tons									
1950	18,516	1,629	30.6	83	23.10	30.90	2.2	1.7	2.9
1955	18,664	1,758	30.1	76	22.00	33.70	2.2	2.2	3.0
1956	19,098	1,825	30.2	75	21.90	32.50	2.3	2.4	3.1
1957	19,946	1,945	31.2	83	18.60	31.50	2.2	2.3	3.0
1958	19,809	2,003	31.4	86	18.60	29.50	2.4	2.5	3.2
1959	19,803	2,050	31.6	81	21.70	29.80	2.3	2.5	3.2
1960	19,821	2,259	32.2	84	21.00	31.60	2.5	2.7	3.4
1961	20,916	2,404	33.2	83	21.00	30.90	2.5	2.6	3.4
1962	21,617	2,533	34.3	80	21.40	30.60	2.5	2.8	3.4
1963	21,858	2,646	35.1	76	23.50	32.90	2.4	2.8	3.4
1964	22,464	2,800	35.9	75	24.00	32.60	2.4	3.1	3.5
1965	22,827	2,953	36.7	79	24.00	33.00	2.4	3.2	3.5
1966	22,569	3,200	37.6	78	24.70	33.40	2.3	3.3	3.4
1967	22,790	3,374	38.3	82	23.60	34.08	2.4	3.5	3.5
1968 1/	22,000	3,530	39.2	85	22.78	32.94	2.4	3.6	3.6

1/ Preliminary. 2/ In herds kept by dairy reporters. 3/ Not comparable to earlier years, beginning 1966. 4/ On farms where milk or cream was sold. Beginning 1966 data are for all farms where milk was produced. 5/ Estimated.

Table 3.--Milk marketings by farmers, income and utilization,
United States, 1950-68 1/

Year	Milk marketed by farmers					Cash receipts from milk marketed by farmers					
	Used on farms where produced	Sold to plants and dealers	Retailed by farmers	Total	Milk sold to plants and dealers	Cream sold to plants and dealers	Retailed by dealers	Total			
	As whole milk	As farm-separated cream	as milk and cream		plants	plants	plants				
					dealers	dealers	dealers				
	Bil. lb.	Bil. lb.	Bil. lb.	Bil. lb.	Bil. lb.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.
1950	18.3	74.2	20.2	3.9	98.3	2.9	0.5	0.3	3.7		
1951	17.9	74.5	18.5	3.7	96.7	3.4	.5	.3	4.3		
1952	17.0	77.3	16.9	3.5	97.7	3.8	.5	.3	4.6		
1953	16.1	84.6	16.3	3.2	104.1	3.7	.4	.3	4.4		
1954	15.4	87.9	15.9	2.9	106.7	3.5	.3	.3	4.1		
1955	14.6	91.0	14.7	2.7	108.3	3.6	.3	.3	4.2		
1956	13.6	95.5	13.3	2.4	111.2	4.0	.3	.2	4.5		
1957	12.4	98.3	11.7	2.3	112.2	4.1	.3	.2	4.6		
1958	11.1	99.6	10.3	2.2	112.1	4.1	.2	.2	4.6		
1959	10.0	100.8	9.1	2.1	112.0	4.2	.2	.2	4.6		
1960	9.2	103.9	7.9	2.1	114.0	4.4	.2	.2	4.8		
1961	8.4	108.4	6.9	2.1	117.3	4.6	.2	.2	4.9		
1962	7.7	110.7	5.9	2.0	118.6	4.5	.1	.2	4.9		
1963	7.1	111.2	5.1	1.9	118.1	4.6	.1	.2	4.9		
1964	6.5	114.2	4.4	1.9	120.5	4.7	.1	.2	5.0		
1965	6.0	112.7	3.6	1.8	118.2	4.8	.1	.2	5.0		
1966	5.5	109.7	3.0	1.7	114.4	5.3	.1	.2	5.5		
1967 2/	5.2	109.4	2.4	1.8	113.6	5.4	.1	.2	5.7		
1968 3/	4.6	109.1	1.9	1.7	112.7	5.8	4/	.2	6.0		
	Utilization of milk supply 5/										
Fluid	Cheese					Evapo- rated, condensed, and dry whole milk	Frozen dairy products, net	Creamed cottage cheese factory products	Total factory products	Miscel- laneous 6/	
	Creamery butter, net	American	Other								
		Bil. lb.	Bil. lb.	Bil. lb.	Bil. lb.	Bil. lb.	Bil. lb.	Bil. lb.	Bil. lb.	Bil. lb.	Bil. lb.
1950	42.4	27.8	9.0	2.9	7.9	6.9	0.7	55.2	0.7		
1951	43.9	24.1	8.8	2.8	8.0	7.0	.9	51.6	1.4		
1952	45.1	23.8	8.6	3.1	7.6	7.5	1.0	51.6	1.1		
1953	45.9	28.5	10.2	3.1	7.0	7.8	1.0	57.6	.4		
1954	47.5	29.3	10.5	3.3	6.8	7.7	1.1	58.7	.5		
1955	49.1	28.0	10.1	3.5	7.1	8.2	1.2	58.0	1.2		
1956	50.7	28.7	9.9	3.8	7.2	8.5	1.3	59.4	1.1		
1957	51.8	29.0	10.0	3.5	7.0	8.6	1.2	59.2	1.3		
1958	52.1	29.7	9.5	3.2	6.3	8.8	1.3	58.9	1.1		
1959	52.4	28.7	9.2	3.4	6.4	9.4	1.4	58.4	1.2		
1960	53.0	29.4	9.7	3.7	6.2	9.5	1.4	59.8	1.2		
1961	52.6	31.8	11.2	3.7	6.0	9.6	1.3	63.6	1.2		
1962	53.3	33.1	10.7	3.7	5.7	9.7	1.4	64.1	1.2		
1963	54.3	30.7	10.9	3.9	5.6	9.9	1.5	62.7	1.3		
1964	54.9	31.3	11.5	4.2	5.7	10.3	1.7	64.5	1.1		
1965	55.4	28.5	11.5	4.3	5.3	10.6	1.6	61.8	1.2		
1966	55.4	23.7	12.2	4.5	5.4	10.5	1.7	57.9	2.5		
1967 2/	54.3	26.1	12.7	4.5	4.6	10.5	1.4	59.7	1.0		
1968 3/	53.7	24.9	12.8	4.7	4.3	11.0	1.3	59.0	.2		

1/ Includes available data for Alaska and Hawaii beginning 1960; totals may not add due to rounding.
 2/ Preliminary. 3/ Estimated. 4/ Less than 50 million dollars. 5/ Total supply includes milk marketed by farmers, net imports of ingredients such as frozen cream and butterfat-sugar mixtures, and net change in storage cream. 6/ Residual, including miscellaneous minor uses and any inaccuracies of independently determined use items.

Table 4 .--Total milk: Commercial disappearance,
1965-68

Item	1965	1966	1967	1968			Change from a year earlier	
					Billion pounds	Billion pounds	Billion pounds	Percent
Production	124.2	119.9	118.8	117.3				
Farm use	6.0	5.5	5.2	4.6				
Marketings	118.2	114.4	113.6	112.7				
Beginning commercial stocks (Jan. 1)	4.3	3.9	4.8	4.3				
Imports	.9	2.8	2.9	1.8				
Total supplies	123.4	121.1	121.3	118.8				
Ending commercial stocks (Dec. 31)	3.9	4.8	4.3	3.9				
Net removals (CCC and PIK)	5.7	.6	7.4	5.0				
Commercial disappearance	113.8	115.7	109.6	109.9				

1/ 1967 level 12 times that of 1966.

Table 5---Factors influencing and indicative of the demand for milk and dairy products, United States, 1950-68 1/

Year	Total	Total	BLS	Per capita		Civilian per capita disappearance				
	population	consumer	consumer	disposable income	Deflated by	Milk equivalent	Milk solids			
	July 1	price	index	Actual	consumer	Fat	Calcium	Milk	Solids-not-fat	
(including Armed Forces overseas)	employment	1957-59=100								
	Million	Million		Dollars	Dollars	Pounds	Pounds	Pounds	Pounds	
	1950	151.7	58.9	83.8	1,364	1,628	740	507	29.3	
	1951	154.3	60.0	90.5	1,468	1,622	712	507	28.1	
	1952	157.0	60.3	92.5	1,518	1,641	698	520	27.2	
	1953	159.6	61.2	93.2	1,582	1,697	689	510	26.7	
	1954	162.4	60.1	93.6	1,585	1,693	697	514	27.0	
1955	1956	1957	1958	1959	1957-59=100					
1960	1961	1962	1963	1964	1957-59=100					
1965	1966	1967	1968 2/	1968 2/	1957-59=100					
Average retail prices, BLS index, 1957-59=100										
All foods	Dairy products	Fluid milk, grocery	Butter	Cheese, American, process	Ice cream	Evaporated milk	Margarine, colored	Per capita margarine consumption		
								Pounds		
								Pounds		
								Pounds		
								Pounds		
								Pounds		
								Pounds		
								Pounds		
								Pounds		
								Pounds		
1950	85.8	84.7	81.8	96.7	88.6	---	84.4	104.8	6.1	
	95.4	94.5	90.7	108.5	100.9	101.1	96.1	117.4	6.6	
	97.1	98.5	95.2	113.3	103.7	101.8	99.5	99.9	7.9	
	95.6	96.8	94.1	105.3	103.4	101.0	97.4	100.4	8.1	
	95.4	93.7	92.1	96.5	98.7	99.2	92.5	101.3	8.5	
	94.0	93.6	92.3	94.5	98.7	97.5	91.1	98.2	8.2	
	94.7	96.0	95.1	96.7	99.1	97.3	94.0	99.0	8.2	
	97.8	98.8	98.4	99.6	99.9	99.3	97.5	102.7	8.6	
	101.9	100.3	100.3	99.5	100.1	100.2	100.9	100.8	9.0	
	100.3	101.0	101.3	101.0	100.0	100.4	101.6	96.3	9.2	
1960	101.4	103.2	103.7	100.5	103.9	99.7	105.3	92.9	9.4	
	102.6	104.7	104.0	102.6	110.4	99.5	106.1	99.0	9.4	
	103.6	104.1	103.5	101.1	109.8	98.8	104.2	98.4	9.3	
	105.1	103.8	103.0	101.0	110.4	98.1	103.1	95.4	9.6	
	106.4	104.7	103.3	102.0	113.4	96.2	102.9	95.4	9.7	
	108.8	105.0	102.8	103.6	116.6	94.4	105.3	101.9	9.9	
	114.2	111.8	109.4	112.8	130.6	96.6	110.6	104.5	10.5	
	115.2	116.7	113.8	115.9	136.3	99.0	117.4	104.8	10.5	
	119.3	120.6	118.5	116.8	139.2	98.8	119.8	103.3	10.6	

1/ Includes available data for Alaska and Hawaii, beginning 1960. 2/ Preliminary.

Table 6.--Milk equivalent: Domestic civilian disappearance, commercial and noncommercial sources, total and per capita, United States, 1947-49 and 1957-59 averages, selected years, 1950-68

Year	Civilian disappearance						Consumption excluding donations from CCC supplies		
	Consumed on farms 1/	supplies of: butter and cheese to: civilian channels	CCC National School Lunch and Special Milk Programs	Commer- cial sources	All sources	Total military utiliza- tion 2/	Civilian	Military	Total
	Million pounds								
1947-49	15,458	134	482	91,547	107,621	1,541	107,487	1,538	109,025
1957-59	8,396	3,035	2,105	102,793	116,348	2,653	113,294	2,170	115,464
1950	14,250	1,271	623	94,964	111,108	1,766	109,837	1,766	111,603
1955	11,359	3,102	1,394	98,697	114,552	3,329	111,450	2,627	114,077
1956	10,508	3,340	1,743	100,554	116,145	3,123	112,805	2,635	115,440
1957	9,431	2,224	1,917	102,077	115,649	2,775	113,425	2,333	115,758
1958	8,380	4,040	2,113	102,352	116,885	2,610	112,845	2,114	114,959
1959	7,378	2,840	2,284	103,949	116,451	2,574	113,611	2,064	115,675
1960	6,610	2,040	2,455	105,259	116,364	2,532	114,324	2,228	116,552
1961	5,950	3,385	2,602	104,191	116,128	2,472	112,743	2,111	114,854
1962	5,334	4,848	2,755	104,839	117,776	2,969	112,928	2,344	115,272
1963	4,813	4,929	2,902	105,239	117,883	2,964	112,954	2,415	115,369
1964	4,337	5,206	3,031	107,008	119,582	3,007	114,376	2,525	116,901
1965	3,915	3,593	3,215	107,969	118,692	2,819	115,099	2,387	117,486
1966	3,508	1,129	3,373	108,713	116,723	2,376	115,594	2,376	117,970
1967	3,185	3,105	3,441	104,238	113,969	2,118	110,864	2,118	112,982
1968 3/	2,840	4,225	3,610	103,140	113,815	3,327	109,590	2,213	111,803
Per capita civilian disappearance 4/									
Consumed on farms 1/	CCC supplies of butter and cheese to civilian channels	National School Lunch and Special Milk Programs	Commercial sources	All sources					Civilian consumption excluding donations from CCC supplies
Pounds									
1947-49	106	1	3	631	742	741			
1957-59	49	18	12	600	679	661			
1950	95	8	4	632	740	731			
1955	70	19	9	608	706	687			
1956	64	20	11	608	702	682			
1957	56	13	11	606	687	674			
1958	49	24	12	597	682	658			
1959	42	16	13	596	667	651			
1960	37	11	14	591	653	642			
1961	33	19	14	575	641	622			
1962	29	26	15	570	641	614			
1963	26	26	16	564	631	605			
1964	23	27	16	565	631	604			
1965	20	19	17	563	618	600			
1966	18	6	17	561	602	596			
1967	16	16	18	533	582	566			
1968 3/	14	21	18	522	576	555			

1/ Milk and butter consumed in households on milk-producing farms, 1947-54; 1955 to date includes a small amount of farm-churned butter sold. 2/ Includes any quantities used by military in civilian feeding programs abroad. 3/ Preliminary. 4/ Aggregate in each category divided by total civilian population.

Table 7.—Milk and dairy products sales (domestic disappearance, commercial sources) total and per capita, United States, 1950-68 ^{1/}

Year	Fluid milk products sales						Evaporated and condensed						Frozen products						Dry milk products					
	Cheese			Total			Cottage cheese			Evaporated			Condensed			Ice cream			Frozen			Nonfat dry		
	Whole and part skim	Whole milk cheese	Butter milk cheese	Whole milk	Prod. milk	Butter milk	Cottage cheese	Whole	Densed	Ice	Dairy	Sherry	Other	Condensed	Whole	Densed	Ice	Dairy	Sherry	Other	Nonfat dry	buttermilk	ter. whey	milk
1950	37,280	1,490	2,100	10,870	43,100	1,371	809	333	462	2,794	300	765	554	37	17	8	---	49	525	23	23	25	25	25
1951	38,620	1,520	2,380	12,520	44,400	1,288	778	324	507	2,602	299	732	569	46	20	9	---	61	632	19	21	26	26	26
1952	39,950	1,470	2,580	14,000	45,500	1,167	826	353	529	2,562	296	714	593	54	26	9	11	86	702	32	25	30	30	30
1953	40,660	1,470	2,770	14,900	46,200	1,147	790	372	570	2,510	308	753	605	65	31	9	24	51	646	34	34	28	28	28
1954	42,180	1,440	2,850	14,470	47,700	1,222	831	385	612	2,430	318	782	597	80	34	5	31	38	672	38	28	28	28	28
1955	43,710	1,450	3,020	18,180	49,200	1,232	795	412	640	2,383	329	758	629	90	37	5	32	45	809	40	32	29	29	29
1956	45,230	1,510	3,170	19,910	50,700	1,234	805	428	744	2,322	370	749	641	103	36	3	33	33	777	49	32	28	28	28
1957	46,250	1,520	3,350	51,120	51,800	1,257	777	434	774	2,260	388	769	651	111	37	3	34	40	801	56	46	30	46	30
1958	46,570	1,510	3,470	51,550	52,100	1,222	814	455	789	2,162	424	728	658	117	37	4	40	50	821	65	47	30	47	30
1959	46,860	1,510	3,750	52,120	52,400	1,210	874	497	826	2,110	434	796	699	134	40	4	42	50	944	69	52	23	52	23
1960	47,360	1,560	4,080	53,000	53,000	1,223	945	525	858	2,043	451	796	700	145	41	5	45	48	53	57	1,000	71	61	22
1961	46,990	1,540	4,500	53,030	52,600	1,165	1,008	523	841	1,980	468	868	699	164	40	4	40	51	62	70	63	62	21	21
1962	47,650	1,530	4,840	54,020	53,300	1,171	976	568	853	1,904	432	887	708	188	41	5	51	51	62	74	68	68	21	21
1963	48,620	1,490	5,230	55,310	54,300	1,116	1,019	580	868	1,796	415	847	718	203	42	5	51	51	69	75	81	75	20	20
1964	49,110	1,450	5,860	56,420	54,900	1,136	1,042	620	897	1,743	445	900	739	216	44	6	51	61	969	78	100	20	20	20
1965	49,750	1,430	6,390	57,570	55,400	1,122	1,106	653	901	1,669	423	967	757	231	45	6	53	61	931	79	113	20	20	20
1966	49,640	1,380	7,220	58,240	55,400	1,064	1,206	696	894	1,555	390	1,938	751	240	47	7	52	65	1,024	63	137	20	20	20
1967	48,330	1,310	8,160	57,800	54,300	974	1,182	722	896	1,401	374	983	745	247	46	7	54	51	982	67	149	14	14	14
1968	47,840	1,260	9,400	58,500	53,700	989	1,215	796	900	1,312	357	930	781	256	48	7	51	47	1,030	62	162	14	14	14

Year	Total												Per capita ^{8/}													
	Milk						Milk						Milk						Milk							
	1 lb.	1 lb.	1 lb.	1 lb.	1 lb.	1 lb.	1 lb.	1 lb.	1 lb.	1 lb.	1 lb.	1 lb.														
1950	278	11.1	15.6	304	9.1	5.4	2.2	3.1	18.5	2.0	5.1	3.7	0.2	0.1	0.1	---	0.3	3.5	0.2	0.2	0.2	0.2	0.2	0.2		
1951	282	11.1	17.4	310	8.4	5.1	2.1	3.3	17.0	2.0	4.8	3.7	0.3	0.1	0.1	---	0.4	3.4	0.2	0.2	0.2	0.2	0.2	0.2		
1952	285	10.5	18.4	314	7.5	5.3	2.3	3.4	16.5	1.9	4.6	3.8	0.3	0.1	0.1	0.1	0.1	4.5	0.6	4.5	0.6	4.5	0.6	4.5	0.6	
1953	284	10.3	19.3	313	7.3	5.0	2.4	3.6	15.9	1.9	4.8	3.8	0.4	0.2	0.1	0.2	0.2	4.1	0.3	4.1	0.2	4.1	0.2	4.1	0.2	
1954	287	9.8	19.4	316	7.6	5.2	2.4	3.8	15.1	2.0	4.9	3.7	0.5	0.2	0.2	0.2	0.2	4.2	0.2	4.2	0.2	4.2	0.2	4.2	0.2	
1955	290	9.6	20.0	320	7.5	5.0	2.5	3.9	14.5	2.0	4.6	3.6	0.5	0.2	0.2	0.2	0.2	4.9	0.3	4.9	0.3	4.9	0.3	4.9	0.3	
1956	293	9.8	20.5	323	7.4	4.8	2.5	4.2	13.9	2.2	4.5	3.8	0.6	0.2	0.2	0.2	0.2	4.6	0.3	4.6	0.3	4.6	0.3	4.6	0.3	
1957	291	9.6	21.1	322	7.4	4.6	2.5	4.5	13.3	2.3	4.5	3.8	0.7	0.2	0.2	0.2	0.2	4.7	0.3	4.7	0.3	4.7	0.3	4.7	0.3	
1958	286	9.3	21.4	317	7.1	4.7	2.6	4.6	12.5	2.4	4.2	3.8	0.8	0.2	0.2	0.2	0.2	4.8	0.3	4.8	0.3	4.8	0.3	4.8	0.3	
1959	281	9.1	22.9	313	6.9	5.0	2.8	4.7	12.0	2.5	4.5	4.0	0.8	0.2	0.2	0.2	0.2	5.4	0.3	5.4	0.3	5.4	0.3	5.4	0.3	
1960	276	9.1	23.8	309	6.8	5.3	2.9	4.8	11.4	2.5	4.4	3.9	0.8	0.2	0.2	0.2	0.2	5.6	0.4	5.6	0.4	5.6	0.4	5.6	0.4	
1961	268	8.8	25.7	302	6.4	5.5	2.9	4.6	10.8	2.6	4.7	3.8	0.9	0.2	0.2	0.2	0.2	5.3	0.3	5.3	0.3	5.3	0.3	5.3	0.3	
1962	266	8.6	27.0	302	6.3	5.3	3.1	4.6	10.2	2.3	4.8	3.8	1.0	0.2	0.2	0.2	0.2	5.1	0.4	5.1	0.4	5.1	0.4	5.1	0.4	
1963	265	8.2	28.7	304	5.9	5.4	3.1	4.6	9.5	2.2	4.5	3.8	1.1	0.2	0.2	0.2	0.2	4.9	0.3	4.9	0.3	4.9	0.3	4.9	0.3	
1964	264	7.6	33.9	305	5.7	5.4	3.2	4.7	9.1	2.3	4.7	3.9	1.2	0.2	0.2	0.2	0.2	4.8	0.3	4.8	0.3	4.8	0.3	4.8	0.3	
1965	260	7.2	37.8	305	5.4	6.2	3.6	4.6	7.9	2.0	5.3	3.8	1.2	0.2	0.2	0.2	0.2	5.2	0.3	5.2	0.3	5.2	0.3	5.2	0.3	
1966	250	6.8	42.2	289	4.9	6.0	3.6	4.5	7.1	1.9	5.0	3.8	1.2	0.2	0.2	0.2	0.2	5.0	0.3	5.0	0.3	5.0	0.3	5.0	0.3	
1967	244	6.4	48.0	299	4.9	6.1	4.0	4.5	4.5	1.8	6.6	4.5	4.7	3.9	1.3	0.2	0.2	0.2	5.2	0.3	5.2	0.3	5.2	0.3	5.2	0.3
1968	244	6.4	48.0	274	4.9																					

^{1/} Excludes milk used on farms where produced and distributed from USDA supplies, includes sales to the Armed Services for use in the United States. ^{2/} Includes milk and cream mixtures. ^{3/} Includes skim milk, buttermilk, and flavored milk drinks. ^{4/} Fat solids basis. ^{5/} Includes cottage cheese. ^{6/} Includes full-cream American. ^{7/} Preliminary. ^{8/} Based on resident population, except fluid milk product sales-based on estimated population using fluid products from purchased sources. ^{9/} Less than 0.05 gallon.

Table 8.—Dairy products: U.S. imports, quota and non-quota products, total and December 1967-68 1/

Product	Quota, calendar year	1967 imports	December			January-December			Cumulative, January-December		
			Thou. lb.	Thou. lb.	Thou. lb.	Thou. lb.	Thou. lb.	Thou. lb.	Thou. lb.	Thou. lb.	Thou. lb.
<u>Cheese Quota types</u>											
American-Cheddar	10,037.5	4,967	3,067	3,005	98	4,967	9,841	198			
-Other 2/	6,096.6	55,230	2,381	2,091	88	55,230	5,860	11			
Italian types	11,500.1	9,906	576	2,080	361	9,906	10,242	103			
Edam and Gouda-Natural	9,200.4	[11,615]	[1,220]	854	[82]	[11,615]	8,630	[184]			
-Processed	3/	5,017.0	4,789	354	142	[11,615]	12,756				
Blue mold						335	95				
Swiss-Emmenthaler						1,698	106				
-Gruyere-process						1,091	500				
Other						22,996	1,807				
Total	41,851.6	133,694	12,096	14,191	117	133,694	150,357	112			
<u>Non-quota types</u>											
Pecorino		15,750	1,623	2,639	163	15,750	17,352	110			
Roquefort		1,808	169	254	150	1,808	1,948	108			
Other 4/		528	53	46	87	528	768	145			
Total		18,086	1,845	2,939	152	18,086	20,068	111			
<u>Other quota products</u>											
Butter	707.0	677	45	59	131	677	740	109			
Butteroil	1,200.0	1,200	---	---	---	1,200	1,200	100			
Butterfat mixtures	2,580.0	100,548	393	500	127	100,548	1,882	2			
Frozen cream	12,540.0	11,915	698	2,170	311	11,915	12,605	106			
Dried cream	.5	---	---	---	---	---	---	---			
Dried whole milk	7.0	3	3	---	---	3	7	233			
Dried skim milk	1,807.0	924	263	186	71	924	1,747	189			
Dried buttermilk	496.0	158	16	45	281	158	536	339			
Malted milk	6.0	1	---	---	---	1	1	100			
Evaporated milk	5/	1,311	185	602	325	1,311	4,909	374			
Condensed milk	5/	4,079	109	21	19	4,079	4,854	119			
Non-quota products											
Chocolate crumb		21,544	3,914	4,614	118	21,544	45,337	210			
Casein		29,670	8,730	12,835	147	29,670	116,100	116			
Milk equivalent, fat solids basis, total all products		2,207,780	153,025	193,834	127	2,207,780	1,780,195	61			
1/ Preliminary. 2/ Includes Colby. 3/ Effective September 24, for balance of 1968; 945,000 pounds processed Edam and Gouda; 1,281,000 pounds Emmentaler; 987,000 pounds Gruyere-process; 5,249,000 pounds "other" cheese. 4/ Gjetost, Bryndza, and CammeLost and Noekkelost. 5/ Effective June 10, for balance of 1968; 656,000 pounds for evaporated milk and 2,039,500 pounds for condensed milk.											

Table 9.--Stocks of dairy products, United States, end of year or month, 1960-68

Year and month	Commercial stocks					Government stocks			Total milk equivalent
	Butter	American cheese	Other cheese	Evaporated milk	Nonfat dry milk	Butter 1/	American cheese 2/	Nonfat dry milk	
Million pounds									
1960	21.2	291.4	40.6	221.0	103.1	55.6	0.6	279.8	5,392
1961	19.5	366.4	53.0	225.1	132.5	205.3	53.5	354.9	9,902
1962	31.2	307.1	37.8	141.4	99.0	328.2	79.1	576.0	12,166
1963	32.1	282.7	39.1	131.7	81.5	239.0	39.1	404.6	9,691
1964	37.1	271.9	42.3	185.3	108.8	33.8	24.4	65.5	5,294
1965	27.1	270.2	37.6	134.8	58.2	25.0	.3	96.2	4,458
1966	30.2	322.1	50.4	192.9	118.2	2.1	.2	---	4,858
1967	18.4	302.3	46.2	190.2	98.7	150.2	80.8	157.6	8,261
1968	15.1	286.2	59.3	99.1	78.9	102.2	52.9	198.7	6,627
1967									
Mar.	25.9	314.6	49.4	81.9	93.9	50.3	3.4	.1	5,517
June	45.0	370.7	53.7	228.6	156.9	146.7	32.6	34.7	9,243
Sept.	35.7	347.7	53.4	292.2	133.9	176.6	75.1	130.7	9,912
Dec.	18.4	302.3	46.2	190.2	98.7	150.2	80.8	157.6	8,261
1968 4/									
Mar.	18.9	270.6	47.9	78.1	76.8	157.5	63.9	193.2	7,728
June	53.8	338.2	50.6	149.1	145.9	171.1	54.6	228.8	9,577
Sept.	29.1	340.8	71.2	189.0	107.4	167.5	60.3	232.8	9,225
Dec.	15.1	286.2	59.3	99.1	78.9	102.2	52.9	198.7	6,627

1/ Includes butter equivalent of butteroil and ghee, 1962-65. 2/ Includes process cheese held by USDA beginning May 1967. 3/ Includes manufactured products for which current monthly series are available (excludes nonfat dry milk). 4/ Preliminary.

Table 10.--Dairy products: Exports and imports, United States, 1965-68

Commodity	Exports 1/				Imports				
	1965	1966	1967	1968	1965	1966	1967	1968	
Million pounds									
Butter 2/	65.7	13.7	2.9	32.2	2.2	2.2	2.2	2.2	2.2
Cheese	6.8	6.0	6.4	6.8	79.3	135.4	151.8	170.4	
Condensed milk	65.8	94.3	29.2	42.5	1.8	2.7	4.1	4.9	
Dry whole milk	18.6	15.6	11.9	17.2	---	3/	3/	3/	3/
Evaporated milk	24.7	38.4	33.8	32.7	3/	.6	1.3	4.9	
Frozen cream	---	---	---	---	12.6	15.0	11.9	12.6	
Milk and cream 4/	9.0	9.8	10.8	11.6	---	---	---	---	
Nonfat dry milk	863.4	387.7	409.0	397.1	1.4	2.8	.9	1.7	
Casein	3.3	3.6	5.0	4.5	91.8	107.9	99.7	116.1	
Butterfat mixtures 5/	---	---	---	---	3.4	105.6	100.5	1.9	
Chocolate crumb	---	---	---	---	2.0	6.5	21.5	45.3	

1/ Includes relief and charity. 2/ Includes butter equivalent of butteroil and anhydrous milkfat. 3/ Less than 50,000 pounds. 4/ Mostly whole milk. 5/ Less than 45 percent milkfat.

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

OUTLOOK FOR COTTON IN 1969

Talk by James R. Donald

Economic and Statistical Analysis Division
at the Annual Agricultural Outlook Conference
Washington, D.C., 11:00 A.M., Wednesday, February 19, 1969

The outlook for U.S. cotton this year is highlighted by a sharp drop in supply and a prospective decline in disappearance. The cotton supply is down because smaller beginning stocks are only partly offset by the larger 1968 crop. Offtake is expected to be smaller because of reduced mill use and exports. Still, offtake may exceed the 1968 crop, causing a slight reduction in stocks this season (figure 1).

Next August about 6 million bales of cotton likely will be on hand, around 0.5 million below last summer. During the past 2 years, stocks were reduced over 10 million bales (figure 2).

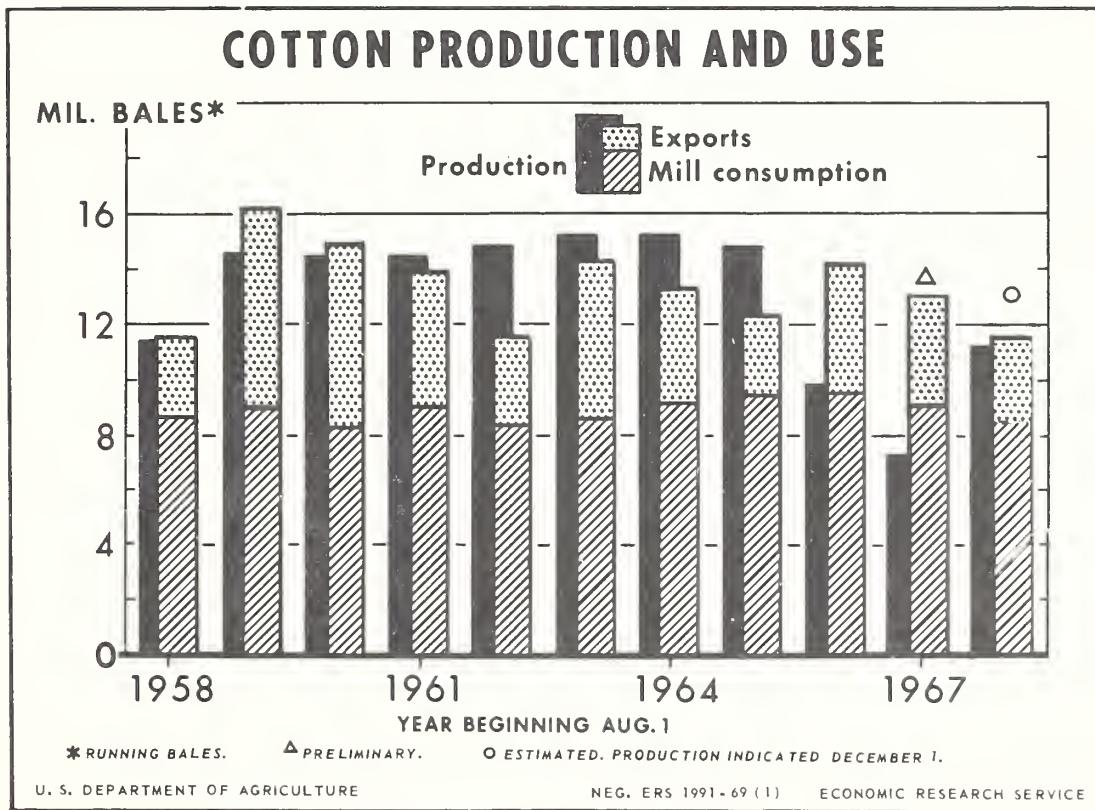


Figure 1

CARRYOVER OF COTTON

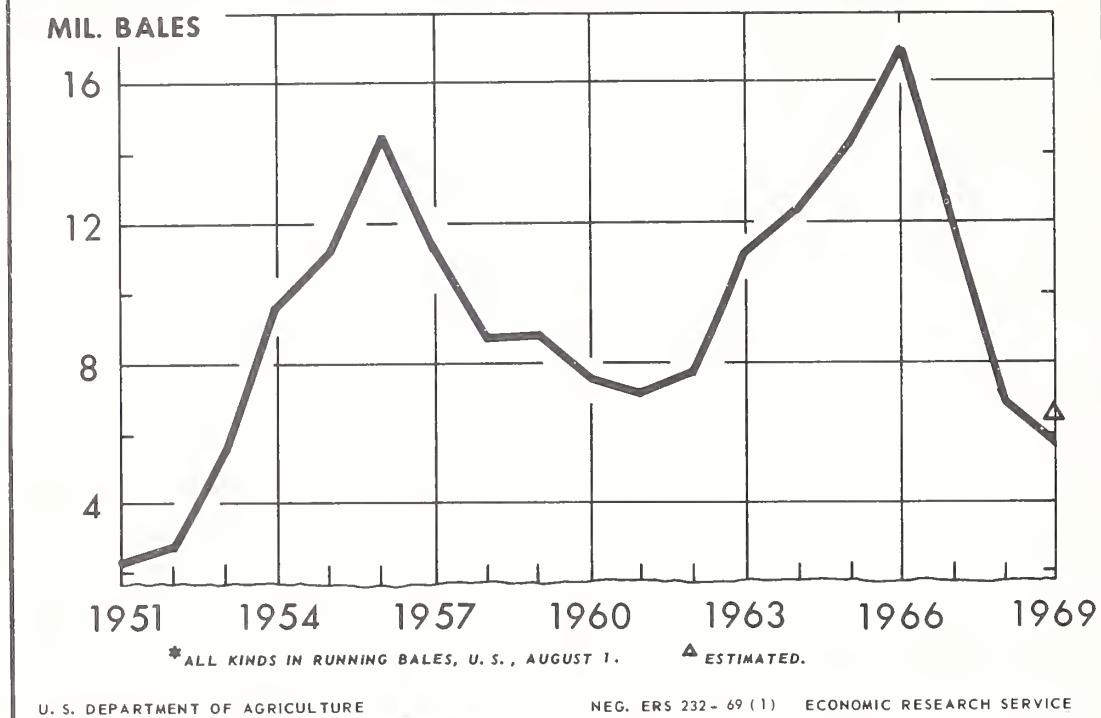


Figure 2

In contrast to the expected slight reduction in total stocks this year, Commodity Credit Corporation stocks may increase sharply. Greater quantities of cotton are now being placed under loan because prices are closer to loan levels this year. As a result, loans are expected to cover 3-1/2 to 4 million bales. Farmers will redeem part of this cotton; if they withdraw about one-third, CCC would acquire 2-1/2 to 3 million bales, leaving free stocks of 3-1/2 million bales or more.

Last August, the trade held over 6 million bales, leaving CCC with only 0.2 million. The trade owned nearly all of carryover stocks because of expected smaller supplies of the various qualities this year and uncertainty about prices. By next August, we expect the trade to work down holdings because of the improved quality distribution of this season's supply and in anticipation of a larger 1969 crop.

Cotton exports represent the sharpest change in the outlook from last year. Shipments are expected to total around 3 million bales during 1968/69, a drop of a little over 1 million from last season. For August-December,

total shipments were slightly under 1.1 million bales, down about 24 percent from the year-earlier period. This is partially due to a slowdown in world cotton trading activity during recent months. Trading activity has remained relatively light because of large carryover stocks in importing countries such as Japan, financial difficulties in Western Europe, lags in cotton consumption in some countries, and uncertainties over cotton supplies and price trends.

There is the possibility that world cotton trade may pick up during the latter half of the season, which in turn would likely boost U.S. exports. However, world trade during 1968/69 probably will differ little from last season's total of 17.0 million bales. Foreign export availabilities are increasing as the result of cotton production abroad increasing faster than consumption. Consequently, the gap between foreign Free-World cotton consumption and production may narrow to 1.5 million bales this year (figure 3). Thus, the U.S. share of world trade probably will decline, and our shipments may fall to around 3 million bales.

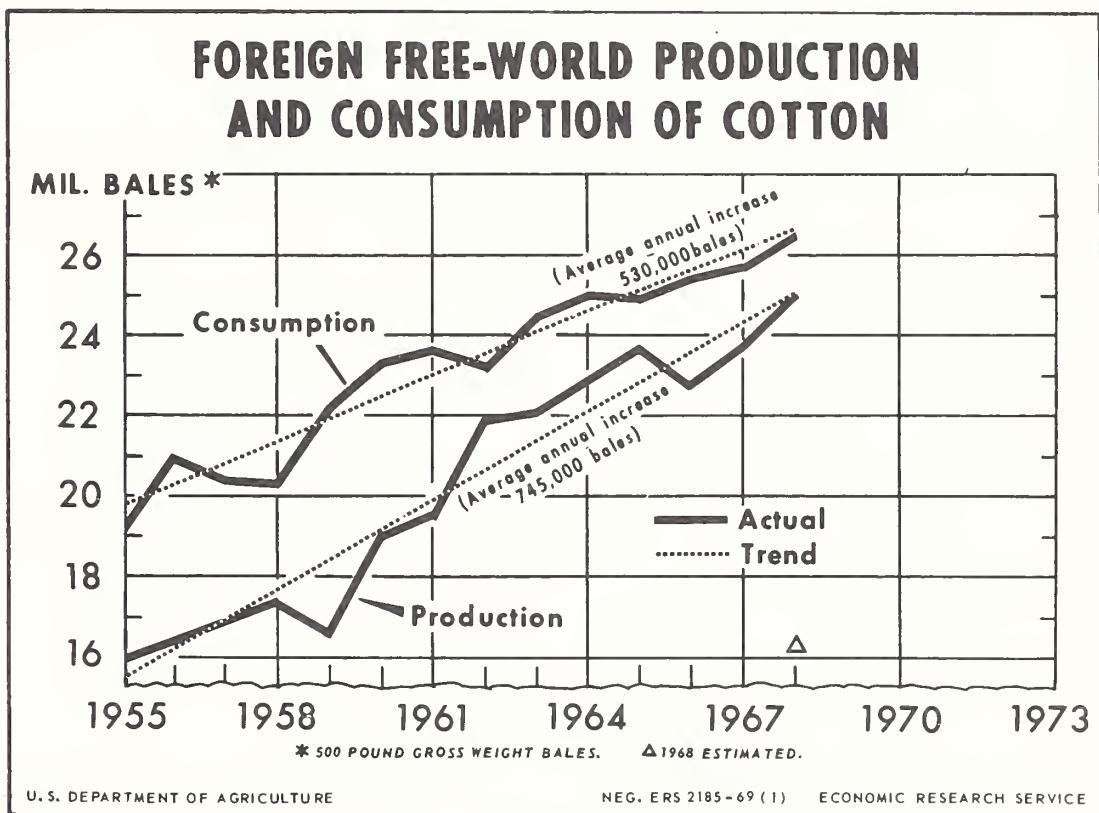


Figure 3

The current and future problems facing cotton were summarized by two cotton trade missions upon their recent return from Europe and the Far East. They reported, in part:

"U.S. cotton is still facing an uphill battle in world competition with man-made fibers and cotton from other producing countries

"The long-run solution for the current low level of U.S. cotton exports lies in continuity of adequate U.S. export supplies, good availability in a range of staple lengths, competitive prices, and better merchandising and promotion."

The most dramatic element in the cotton outlook centers around mill use. For calendar 1968, cotton's losses were the sharpest on record. Cotton's share of the market fell to less than 44 percent, compared with 49 percent in 1967. Man-made fibers probably accounted for over one-half of the market in 1968 (figure 4). There is a continuing sharp shift from the use of cotton to man-made fibers.

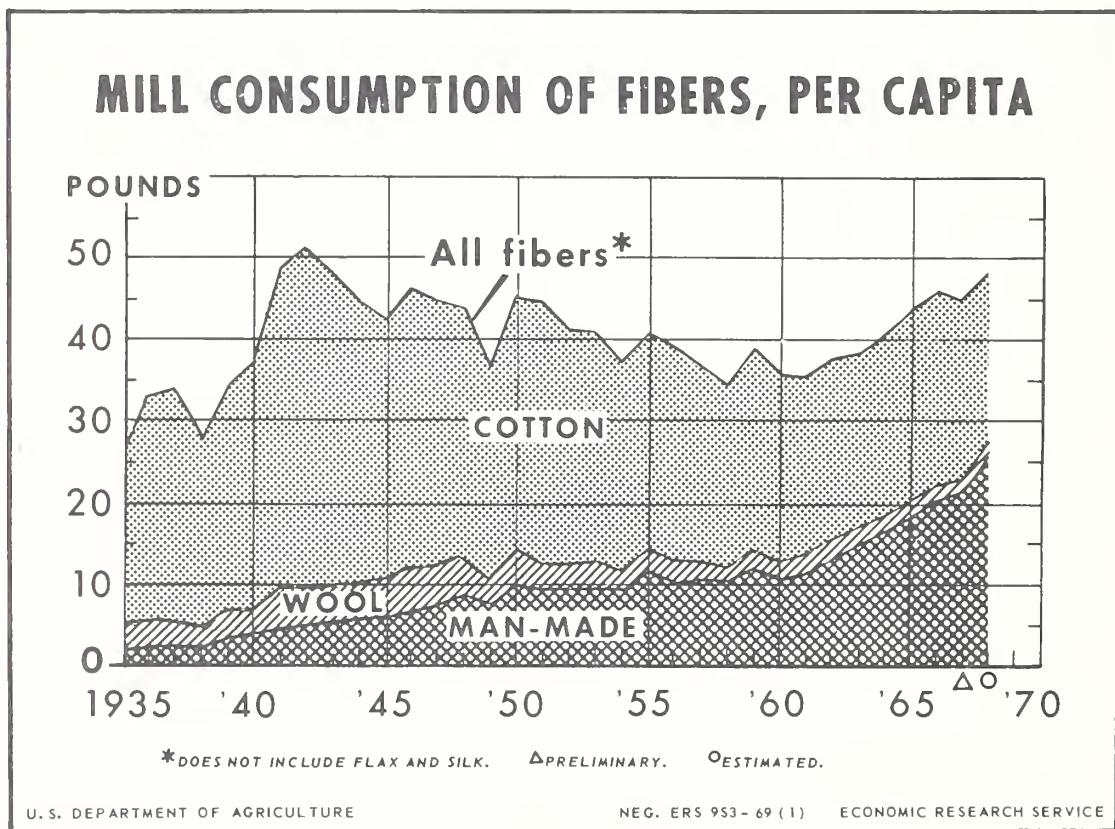


Figure 4

For the 1968/69 crop year, cotton use is likely to fall at least 0.5 million bales short of last season's total of 9.0 million bales, dipping to the lowest level since 1962. Actually, if the rate of cotton use continues to run 8 percent below last year's levels, mill use for the season would fall a little below 8.5 million bales. However, there are some indications that the rate of use may pick up over the next few months. Indications include: (1) The rate of cotton use has turned up slightly in recent months (figure 5); (2) During the last few months the ratio of inventories to unfilled orders for cotton cloth has dropped slightly, and this usually indicates a future increase in cotton use; (3) Cotton prices have fallen, improving the competitive position of cotton vis-a-vis man-made fibers; and (4) Cotton fabric prices have exhibited some strength over the past few months.

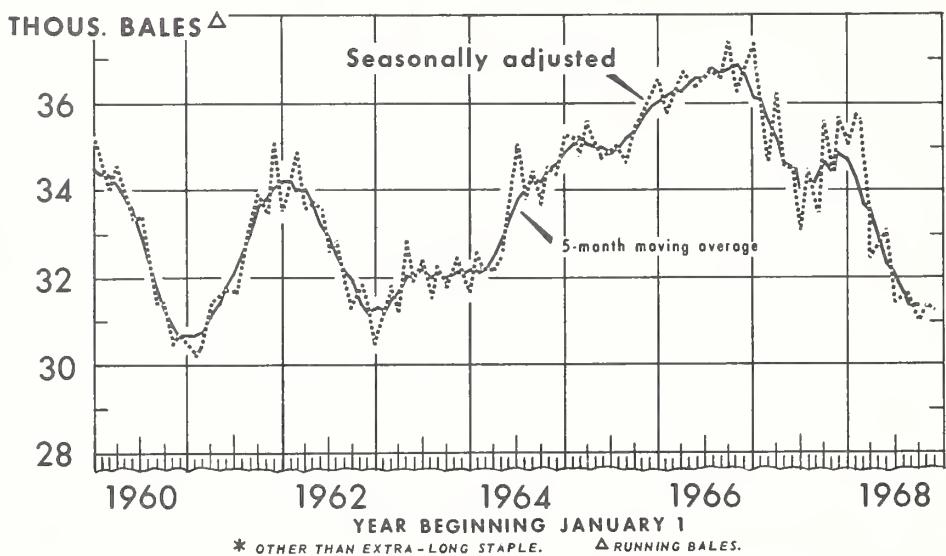
Why the sharp decline in cotton consumption this year? Some of the decline is probably due to reduced military purchases and a higher level of textile imports. However, the primary reason is competitive losses to man-made fibers. In figure 6, the sharp advance in the rate of use in man-made fibers can be seen. How have these fibers displaced cotton? Mostly through blends. For example, the predominant blend is polyester and cotton, of which cotton is usually the minor fiber. Production of this blend alone in 1968 probably totaled nearly 2 billion linear yards, about one-fourth of total cotton broadwoven goods production. Blends are also growing in importance where cotton is not involved. Polyester and modified rayon blends are good examples.

What's behind the sharp gains in use of man-made fibers? Certainly increased supplies and lower prices have stimulated the use of man-made fibers. Other stimulants include: Advances in technology, such as the development of modified rayon; relatively wide mill margins, such as those for polyester-cotton fabric blends; and large expenditures by the man-made fiber producing industry on promotion and advertising of its products.

Now the question arises--can cotton successfully meet the onslaught of man-made fibers? Only time will tell; but one development seems particularly encouraging. The Cotton Research and Promotion Act of 1966 should have long-term benefits, and cotton producers evidently intend to fight for fiber markets. Under the 1966 law, Congress undertook to assist cotton producers to engage in a voluntary self-help program to expand markets for cotton. This act provides for the collection of \$1 per bale, from upland cotton producers, to be utilized for cotton research and promotion.

Upland cotton producers contributed over \$7 million to the 1968 research and promotion program. Producers requested refunds on only 3 percent of total collections--an apparent indication of vigorous support by producers for the \$1 per bale assessment. Funds budgeted for sales promotion in 1968 totaled \$5.3 million, about twice that set aside for cotton research. The budget for the 1969 cotton research and promotion program has been approved for \$10 million--\$6.7 million for promotion and \$3.3 million for research. The heaviest concentration of research funds will be spent on durable press finish for goods made of 100 percent cotton.

DAILY RATE OF MILL CONSUMPTION OF UPLAND COTTON*

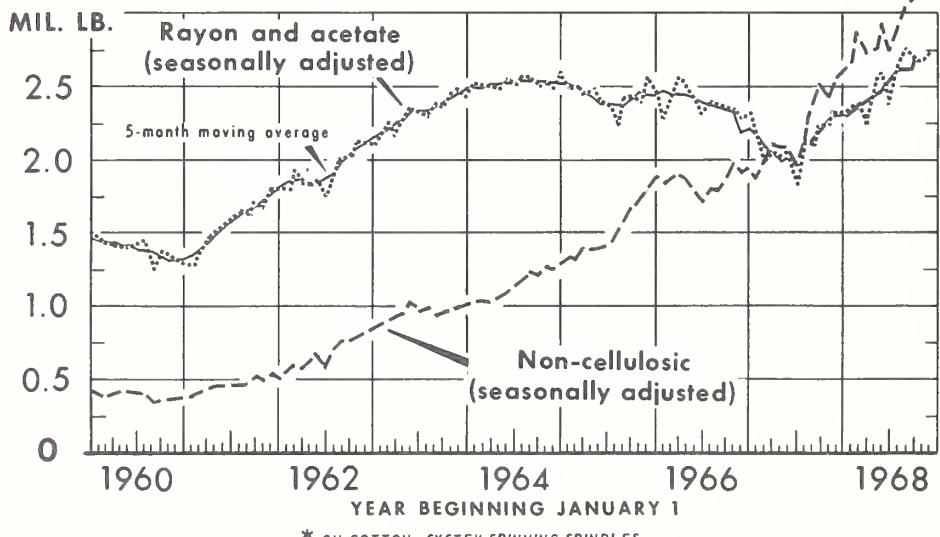


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NEG. ERS 3284-69 (1) ECONOMIC RESEARCH SERVICE

Figure 5

DAILY RATE OF MILL CONSUMPTION OF MAN-MADE STAPLE FIBERS*



U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 3286-69 (1) ECONOMIC RESEARCH SERVICE

Figure 6

At the same time, producers are becoming more aware of the need to supply the market with quantities and qualities of cotton in demand, at competitive prices. Also, they realize that efficiency of production must be increased. Producer awareness is illustrated by the 1968 crop. Plantings were increased and higher yields were attained. Some weather and insect problems were encountered, but the national yield of 511 pounds was rising toward the trend-yield, as shown in figure 7. The 1968 crop, at 10.8 million running bales, is about 45 percent larger than the very small 1967 crop, although still about 23 percent below the 1962-66 average.

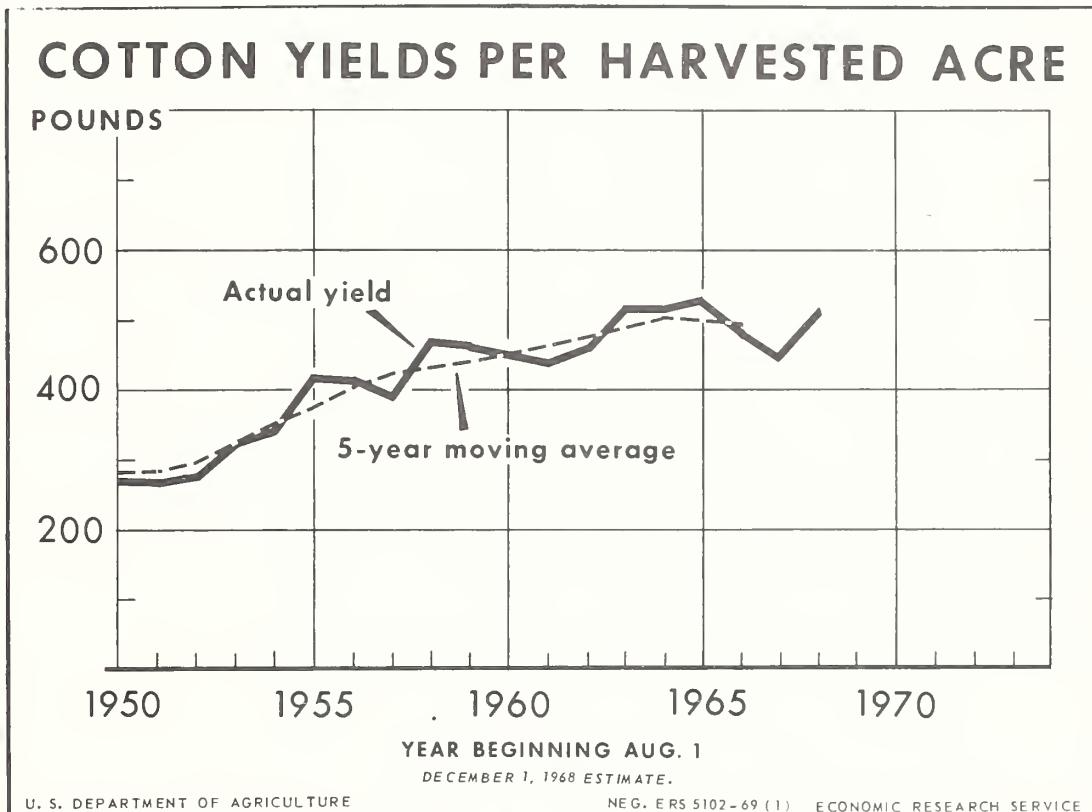


Figure 7

On the quality side, ginnings to January 15 from the crop contained a record-high proportion of cotton stapling 1-1/16 inches and longer. Final ginnings from the crop probably will contain about 70 percent of the longer staples, up from the previous high of 62 percent for the 1967 crop. In addition, the 1968 cotton crop has a better micronaire and is a stronger fiber than last season's crop.

It remains to be seen what cotton producers will do in 1969, but the program for 1969 is designed to encourage greater plantings. That is, acreage diversion will not be required for program cooperators--a 5-percent reduction was required for the 1968 crop; and there will be no payment for voluntary diversion in 1969--whereas up to 30-percent reduction was permitted in 1968 and the payment rate was 6.0 cents per pound.

The 1969 loan rate for Middling 1-inch cotton (at average location) remains at 20.25 cents per pound, but the price support payment, at 14.73 cents per pound, is up sharply from 12.24 cents in 1968. Also, the more liberalized skip-row planting rules for measuring cotton against the allotment will remain for the 1969 crop, as for the 1968 crop. The 1969 upland cotton program was approved by nearly 96 percent of producers voting in a national referendum during early December.

Spot market prices for cotton trended downward during August-December of the current season, reflecting somewhat sluggish demand and large trade holdings of cotton. However, a firmer price tone has become evident recently.

The average spot market price for Middling 1-1/16-inch cotton in January was 26.14 cents a pound, moving within a narrow range of 26.33 cents to 25.87 cents. However, the January average was 4.45 cents below August and 8.66 cents below the high in December 1967, when trade and speculative demand pushed prices of longer staples to unusually high levels. Price declines for the shorter staples have not been as sharp, since the supply last season was not tight in relation to demand. For Middling 1 inch, the January price averaged 22.48 cents, down 2.57 cents from August and 4.54 cents below December 1967. Despite the price declines, January spot market prices for most qualities remained about 2 cents above the loan levels.

The average price received by farmers to December 1 was 25.3 cents per pound, only slightly below the season average of 25.59 cents for the 1967 crop. However, the average price showed more than the usual seasonal drop in December and January and was well below the same months a year earlier. The support price for the 1968 crop of upland cotton (average of the crop) at 19.69 cents a pound is slightly higher than the 19.47 cents for the 1967 crop. Also, the direct price support payment rate was increased for the 1968 crop to 12.24 cents a pound, up from 11.53 cents for the 1967 crop.

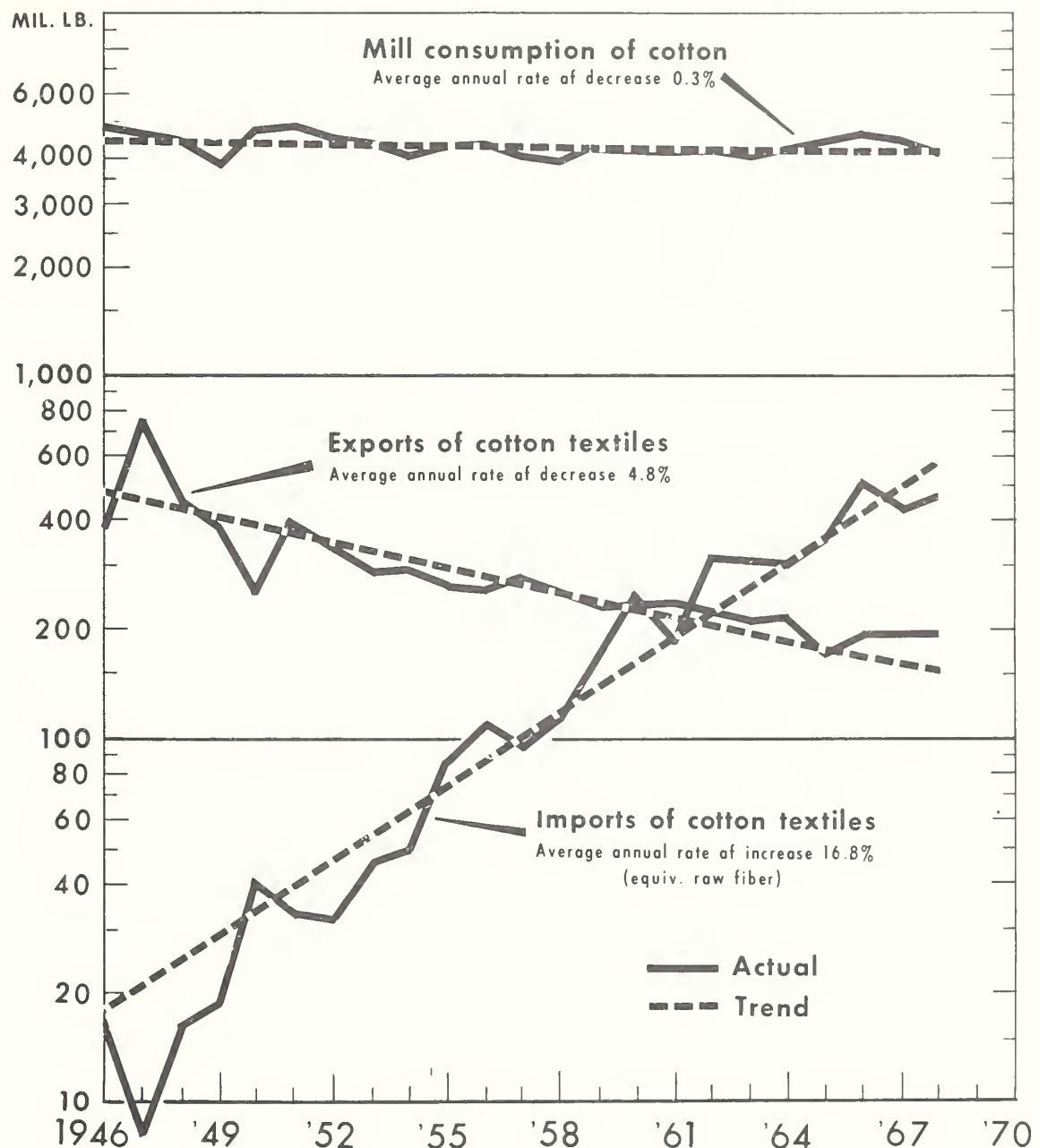
U.S. imports of cotton textiles during calendar 1968 totaled 971,000 equivalent bales of cotton, up from 914,000 in 1967, but below the record of 1,056,000 bales imported in 1966.

Compared with imports, U.S. exports of cotton textiles are relatively small. Exports totaled 354,000 equivalent bales during January-November 1968, 1 percent more than during the year-earlier period. For all of 1968, exports probably remained around the 1966 and 1967 levels of slightly under 400,000 bales.

During the past several years, cotton textile imports have increased not only in quantity but also as a share of the domestic market for cotton. Imports are estimated to have accounted for about 10.6 percent of the market in 1968, compared with 9.4 percent in 1967 and 10.2 percent in 1966--when cotton imports were at a record-high level.

Since 1946, U.S. imports have increased at an average rate of about 17 percent per year, while exports have declined about 5 percent annually (figure 8). Over the same period, mill consumption has declined at a rate of 0.3 percent per year.

U.S. POSTWAR TRENDS IN COTTON CONSUMPTION AND COTTON TEXTILE TRADE*



* TRADE DATA IN RAW COTTON EQUIVALENT POUNDS.

1968 ESTIMATED.





UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

OUTLOOK FOR WHEAT IN 1968/69

Talk by William R. Askew
Economic and Statistical Analysis Division
at the 46th National Agricultural Outlook Conference
Washington, D. C., 11:30 A.M., Wednesday, February 19, 1969

CURRENT SITUATION AND OUTLOOK

The total supply of wheat in 1968/69, at 2.1 billion bushels, was up 160 million from a year earlier and 260 million above 1966/67. The July 1, 1968, carryover of 537 million bushels was up from a year earlier and the 1968 crop was record large.

With the large supply and a smaller overseas requirement, wheat prices have declined and are more competitive with feed grain prices. Thus, it seems likely wheat feeding could total 150 to 200 million bushels in 1968/69 compared with around 60 million last year. Combining this feed estimate with food and seed requirements puts total domestic disappearance at 730 to 780 million bushels.

During the first half of 1968/69, U.S. wheat exports reached 301 million bushels, about 95 million under the same period of 1967/68. U.S. food aid shipments, of which India and Pakistan take the bulk, accounted for much of the decline.

For the rest of the year, a number of important factors come to bear in addition to the world supply-demand imbalance. East and Gulf Coast port movements have been stalled by a strike for a month and a half. A second factor is the issue of Japan's purchases of U.S. wheat. Purchases of U.S. wheat by Japan (for January and February shipment) were temporarily suspended, due to a question about the quality of some U.S. shipments. In addition, competition from both Australia and Canada in the Japanese market has intensified. A third critical factor in the export outlook is the volume of U.S. food-aid shipments. Some step-up could occur in food-aid shipments during the second half, providing the port situation permits, but the total for the year will still be well below that of a year ago.

These factors make it difficult to estimate second half exports and the resulting 1968/69 total. However, considering the movement to date and the related problems, exports for the entire 1968/69 marketing year may reach only 600 to 625 million bushels, in contrast to last year's 761 million.

Based on the range of prospects for domestic disappearance and exports, the carryover on June 30, 1969, could total 700 to 775 million bushels compared with last summer's 537 million. During 1967/68, the carryover increased 112 million bushels, the first increase in carryover since 1960/61.

The Commodity Credit Corporation owned or controlled more wheat on January 1, 1969, than a year earlier. Holdings were as follows:

Item	:	1968	:	1969
<u>Mil. bu.</u>				
CCC owned	:	111		103
Under loan	:			
Previous crops	:	62		208
Current crop	:	<u>190</u>		<u>327</u>
Total	:	<u>363</u>		<u>638</u>
Total Stocks All Positions	:	1,209		Not Available

Wheat prices are being supported by the loan program to a much greater extent than a year ago, with 21 percent of the crop under loan on December 31, 1968, compared with 12 percent a year earlier.

Farm wheat prices were below the loan rate until October 1968. They have since held slightly above the loan. For the rest of the year they are likely to hover near the price support loan. Due to the adequacy of storage space and farmers' ability to use the loan, prices may not fall far below loan. And conversely, because of farmer readiness to redeem from the large quantities presently under loan, prices may not go much over the loan.

Based on prices to date, the season-average U.S. farm price of wheat in 1968/69 is likely to be slightly below the loan rate. The last time the season average price was below the loan was in 1960/61 when the loan was \$1.78 per bushel and the average price was \$1.74 per bushel. During that year the carryover rose from 1.3 billion bushels in the summer of 1960 to the record high of 1.4 billion by June 30, 1961.

THE INTERNATIONAL SITUATION

Based on current indications, world wheat trade in 1968/69 will be the lowest since 1964/65, and possibly the lowest since 1962/63. The earlier years are as shown:

Year	:	Million metric tons	:	Million bushels
1962/63	:	43.7		1,604.6
1963/64	:	56.4		2,074.0
1964/65	:	50.7		1,864.2
1965/66	:	62.4		2,292.4
1966/67	:	56.1		2,061.8
1967/68	:	52.4		1,926.6
	:			

While import needs in Western Europe and the Far East are above recent years, this is more than offset by a large decline in requirements in India and Pakistan. Communist-Bloc imports are expected to be little changed from 1967/68, and some 125-150 million bushels less than the average of the past 5 years. Meanwhile, because of larger crops and the low trade volume, exporting countries face a net stocks increase of about 600 million bushels by next June 30--the most on record within a single year.

A major cause of these developments, of course, is the 1968 world crop outturn. Record yields brought surprisingly large crops in India and Pakistan, while a poor durum wheat harvest resulted in greater import needs for Italy. Australia has harvested a record crop--at least 60 percent larger than its average domestic-and-export disposition of recent years. Elsewhere among the exporting countries crops were average or above, and such was also the case in the Communist-Bloc countries, despite earlier reports of drought in the Danube basin countries and parts of the USSR.

PROSPECTS AND PROGRAMS FOR 1969/70

The U.S. acreage seeded to winter wheat in the fall of 1968 for harvest in 1969 was off 13 percent from that of a year earlier. The 43.0 million acres seeded was some 6.4 million below the fall 1967 seedings and the least since fall 1965 seedings for harvest in 1966.

The national acreage allotment in 1969 was the same as the 51.6 million acre allotment in effect for the 1966 wheat crop. A voluntary acreage diversion program is in effect for the 1969 crop, as was the case for the 1966 crop. No such program applied to the 1967 or 1968 crops.

The indicated proportion of the crop to be harvested for grain, based on the survey in December, was placed at 88 percent. This would put 1969 winter wheat acreage for harvest 1 million acres below the 38.8 million harvested in 1966.

The indicated yield per seeded acre of 25.9 bushels is up 1 bushel from last year. This yield estimate, with the indicated acreage, would provide a crop of 1,115 million bushels, down 114 million from 1968.

The sharpest cuts in seeded acreage took place in the soft red winter wheat regions, particularly the Mississippi Delta and the Cornbelt. In the hard winter wheat States and the Pacific Northwest, seedings were 10 to 12 percent below a year earlier. The Southern Plains experienced good to excellent seeding conditions and probably seeded extensively to utilize the growing crop for grazing. However, in that region as in all others, the full details of the 1969 Feed Grain Program were not known at planting time, and final decisions on substitution of acreage between wheat and feed grains were not possible.

Increased voluntary acreage diversion in 1969 over the 2 million acres diverted in 1966 is likely. The voluntary diversion program for the 1969 crop provides larger payments than in 1966 ($62\frac{1}{2}$ cents per bushel against 50 cents on a national average basis). Also, there has been a change in basic supply and demand factors. As the 1966 crop developed, there was concern over the rapidly declining carryover, and producers were encouraged to plant their full allotment. In the face of rising inventories currently, no such encouragement would seem to be needed this year.

The national average price support loan for the 1969 crop continues at the \$1.25 per bushel in effect since 1965. The value of the marketing certificate will be the difference between the July 1969 parity price for wheat and the loan rate. The 1968 crop marketing certificate was valued at \$1.38 per bushel. Certificates will be issued on 43 percent of projected production in 1969 compared with 40 percent in 1968.

The sign-up period for both the wheat and feed grain programs will run from February 3 through March 21.

Wheat: Supply, distribution and prices, annual 1965-68

Item	Year beginning July				
	1965	1966	1967 1/	1968	Projected
	-- Million bushels --				
<u>Supply</u>					
Beginning carryover	817.3	535.2	425.0	537	
Production	1,315.6	1,311.7	1,522.4	1,570	
Imports 2/	.9	1.7	.9	1	
Total supply	<u>2,133.8</u>	<u>1,848.6</u>	<u>1,948.3</u>	<u>2,108</u>	
<u>Domestic disappearance</u>					
Food 3/	515.4	501.9	519.2	520	
Seed	61.9	78.4	71.8	60	
Industry	.1	.1	.1	---	
Feed (residual) 4/	153.8	98.9	58.6	150-200	
On farms where grown	(41.7)	(26.1)	(38.8)		
Total	<u>731.2</u>	<u>679.3</u>	<u>649.7</u>	<u>730-780</u>	
<u>Available for Export and Carryover</u>					
	1,402.6	1,169.3	1,298.6	1,328-1,378	
<u>Exports 2/</u>					
Commercial, incl. barter	867.4	744.3	761.1	600-625	
	(344.0)	(438.8)	(373.7)		
Total disappearance	<u>1,598.6</u>	<u>1,423.6</u>	<u>1,410.8</u>	<u>1,330-1,405</u>	
<u>Ending carryover</u>					
Privately owned--"Free"	535.2	425.0	537.5	703-778	
	(194.8)	(223.7)	(214.3)		
-- Dollars per bushel --					
<u>Price support</u>					
National average loan rate	1.25	1.25	1.25	1.25	
Average certificate payment	.44	.59	.48	.55	
<u>Season Average Price Received</u>					
By non-participants	1.35	1.63	1.39	1.22	
By program participants	1.79	2.22	1.87	1.77	

1/ Preliminary.

2/ Imports and exports are of wheat, including flour and other products in terms of wheat.

3/ Used for food in the United States and U.S. territories, and by the military both at home and abroad.

4/ Assumed to roughly approximate total amount used for feed, including amount used in mixed and processed feed.





(*-*)

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

OUTLOOK FOR RICE

By William R. Askew
Economic and Statistical Analysis Division
at the 46th National Agricultural Outlook Conference
Washington, D.C., Wednesday, February 19, 1969

The U.S. rice supply in 1968/69 set another new record--112 million hundredweight. The 1968 crop totaled 105 million cwt., up 18 percent from the previous year, overcoming the effects of the smallest beginning carry-over in several years (6.8 million cwt. on August 1, 1968). Privately held stocks continued to comprise almost the entire carryover. Imports in 1967/68 remained at a low level. In 1968/69 they are likely to continue small (table 1). (Data in this table and in the outlook section are in rough rice equivalent).

Domestic food use totaled 25 million cwt. in 1967/68, continuing its longtime uptrend. In the current season, food use is likely to edge further upward to set another record. Brewers' use of rice, heavy in 1967/68, also may continue heavy. If the present rate of usage continues, it could exceed last year's 5.4 million cwt. by 10 percent. Seed use likely will be nearly 3 million cwt. to meet the requirements of the 2,160,000-acre 1969 acreage allotment. Thus, total domestic disappearance in 1968/69 is likely to be nearly a million cwt. more than the 33.6 million cwt. of 1967/68.

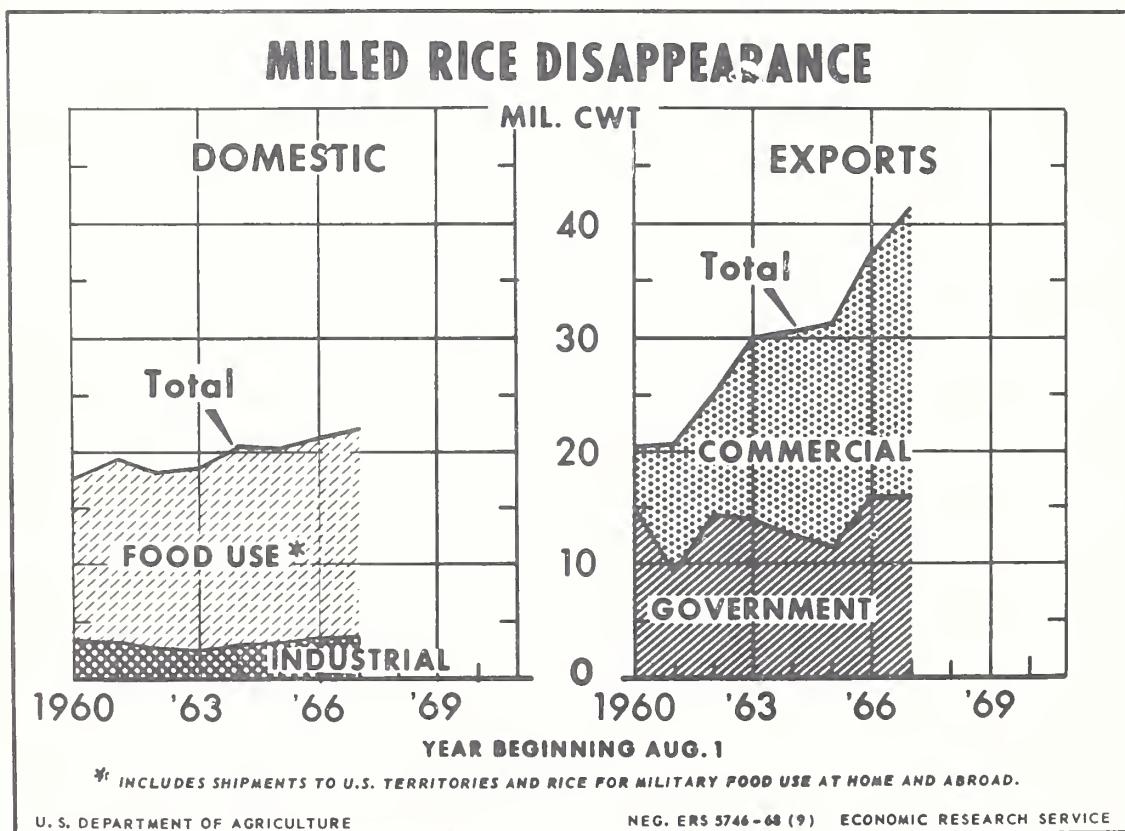
Subtracting prospective domestic use from the total supply leaves the availability for export and carryover in 1968/69, at the beginning of the marketing year, at nearly 78 million cwt., 20 percent more than last year. Of the 64.3 million cwt. available last season, 56.9 million was exported, with the remainder going into carryover. Exports for dollars accounted for nearly 35 million cwt., setting a new record.

U.S. exports for August-December 1968 totaled 19.6 million cwt., slightly above a year earlier. Thus, the availability for export and carryover on

The Rice Situation will be published semi-annually. A summary of the first report in 1969 will be released on March 21 and the full report on March 27. The second issue will be released in early October.

January 1, 1969, had been reduced to 58 million cwt. For the entire marketing year, exports are likely to continue strong, but much depends on availability of rice from Thailand and Burma and on import requirements in South Vietnam and Indonesia. Thailand and Burma declined in importance as exporters in calendar 1968 due to small crops, but they appear to have better crops this year. Import needs of South Vietnam, the major taker of U.S. rice in 1967/68, are down sharply. Japan--formerly the world's biggest commercial buyer of rice--has a large supply. Thus, they have drastically reduced imports and may become a net exporter. In addition, the dock strike on the East and Gulf Coasts halted rice exports for nearly two months. It may be difficult to regain all of this lost dollar business this season.

The size of the U.S. carryover on July 31, 1969, will be primarily determined by the level of exports. Exports were maintaining last year's pace during August-December, but for the entire marketing year they may not be large enough to prevent an increase in ending carryover. As a result, the carryover likely will be substantially larger than the relatively low level of 6.8 million cwt. last summer.



The outlook for the 1968/69 world rice harvest appeared promising earlier in the season. But drought in several Southeast Asian countries just prior to harvest in November and December 1968 reduced production prospects. As a result, the level of paddy output in 1968/69 (excluding communist Asia) may be below the current estimate of 183 million metric tons for 1967/68, but not substantially.

The international market for rice has continued to ease. Prices in exporting countries have moved downwards as new crop supplies have become available. Thai 100 percent white rice sold for \$190 per metric ton in January 1969. This was below the \$220 per ton a year earlier. However, it was an increase from the \$185 in December 1968. This moderate pickup reflects the fact that world exportable supplies in 1969 may be only slightly above those in 1968, although the United States has a much larger exportable supply.

1969 PROGRAM

The acreage allotment for the 1969 rice crop was set at 2,160,000 acres, down 10 percent from last year. The minimum national average 1969-crop price support is \$4.65 per cwt., up 5 cents from 1968. A higher support price could be set if the August 1969 parity price for rice warrants it.

Marketing quotas were proclaimed for the 1969 crop, as in every year since 1955. They were approved by 93.4 percent of the rice growers. Approval by at least two-thirds is required for quotas to be put into effect. Growers who exceed their allotment will again be subject to a marketing quota penalty on their excess production.

REVIEW OF 1967/68

ROUGH RICE

Supply and Distribution

Rough rice supplies in the United States for the 1967/68 season totaled a record 95.6 million cwt., an increase of 5 million over the previous season. Increased production in the South more than offset a smaller crop in California. The 1967 Southern rice crop totaled 71.8 million cwt., up 7 million from 1966 while the 1967 California crop at 17.6 million was 2 million below the year before. Disappearance of rough rice was at a high level, reflecting increased milling and seed requirements. Exports of rough rice continued light with most shipments going to Venezuela. Stocks of rough rice at the beginning of the 1967/68 season totaled 6.2 million cwt., but dropped to 3.5 million at the close of the season (table 2).

Loan Activity

Farmers put nearly 16.4 million cwt. of 1967 crop rice under price support loan. Over half of this was in Arkansas, with large quantities in Texas and Mississippi. Because of advancing prices, very little of the rice put under loan was delivered to Commodity Credit Corporation. Deliveries totaled only 39,000, of which 26,000 was Bluebonnet, mostly in Arkansas.

Farm Prices

Average prices received by farmers for rough rice were slightly higher than the previous year in Arkansas, Louisiana, and Mississippi due in part to the stronger demand for medium grain rice. Farm prices in Texas averaged slightly below the previous season due in part to larger proportion of long grain rice produced there. The U.S. average farm price for rough rice in 1967/68 was \$4.97 per cwt., 42 cents over the national average loan.

MILLED RICE

Supply and Distribution

The bulk of the rough rice crop is usually milled and in 1967/68 mill use of rice was almost equivalent to the 1967 crop. Supplies of milled rice for 1967/68 totaled 65.8 million cwt., an increase of 5 million above 1966/67. Larger supplies in the South more than offset a decrease in California. Stocks of milled rice at the end of the season, August 1, 1968, totaled 2.4 million cwt., up somewhat from a year earlier (table 2).

Disappearance of milled rice during the 1967/68 season at 63.4 million cwt. was record high. Domestic use was well above any previous year. The quantity of milled rice used for domestic food totaled 15.4 million cwt. This is 6 percent above the previous season and 13 percent above the 5-year average. Per capita consumption reached 7.8 pounds, also up over any recent year. Shipments of milled rice to territories, mainly Puerto Rico, dipped slightly. Breweries used nearly 4 million cwt. of milled rice, second largest of record and 23 percent above the 1959-63 average.

Exports

Exports of fully milled and brown rice totaled 41.2 million cwt. last season or nearly 2/3 of the total production of milled rice. Around a third of the exports, 14.0 million cwt., went to Vietnam. The major portion of this was medium grains moving from the South. The movement through California ports of 6.6 million cwt. to the Republic of Korea took most of the exportable surplus out of that market. Only token movements to Japan reflected its attainment of self sufficiency. Sharp decreases were recorded in exports to Peru, India, the Philippines and Ghana but exports to Hong Kong were up

sharply. Volume to the European countries showed little change from previous years with West Germany and the United Kingdom each taking about 1.0 million cwt. The bulk of this, 56 percent as compared with about 40 percent in recent years, was long grain brown rice from the South.

Market Prices

Milled rice prices generally advanced throughout the year as shortages of supplies in world markets resulted in higher world market prices. The export demand was strongest for medium and short grain rice. Prices of long grain varieties advanced gradually after the normal downturn at harvest. A firm demand for long grain moved prices upward during the year and by July 1968 they were 25 to 35 cents per cwt. above a year earlier. Medium grain varieties held steady the first half of the season with generally ample supplies, but a strong export demand developed--reducing available supplies and tending to boost prices.

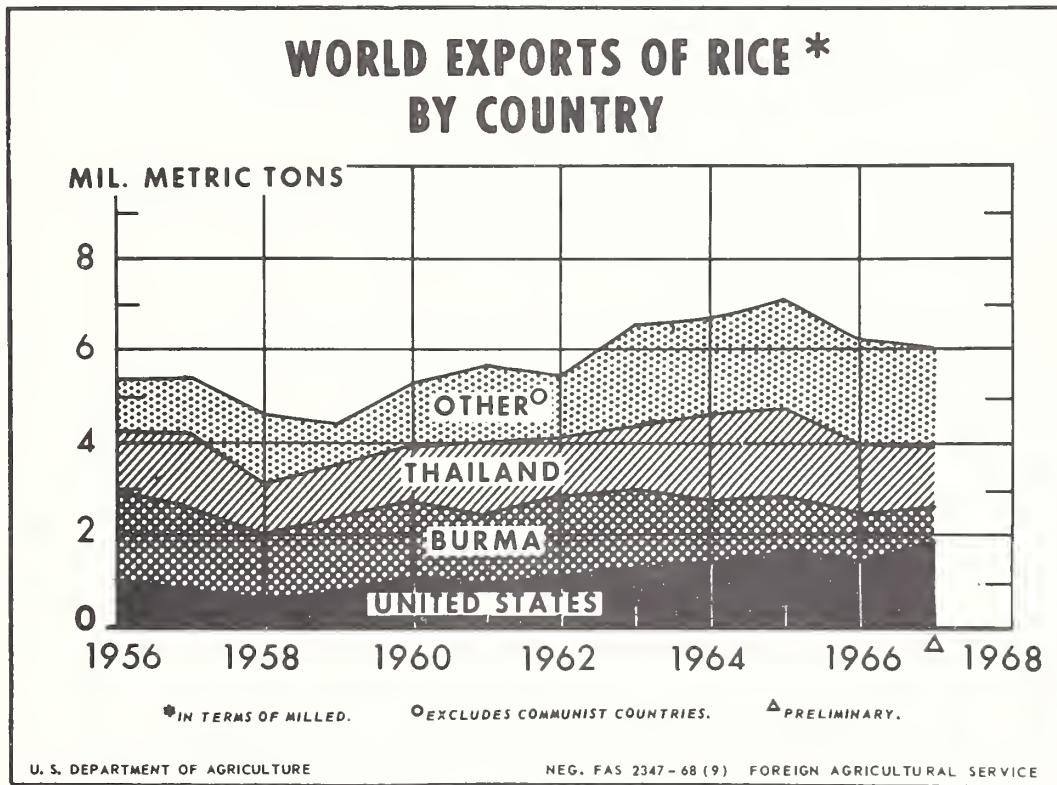


Table 1.--Rice, rough equivalent: Supply and distribution and prices,
United States, average 1959-63, annual 1964-68 1/

Item	Year beginning August					
	1959-63 average	1964	1965	1966	1967 2/	1968 2/
	Million cwt.					
<u>Supply</u>						
Carryover August 1	10.2	7.5	7.7	8.2	8.5	6.8
Production	59.8	73.2	76.3	85.1	89.4	105.3
Imports	.3	.5	.7	3/	3/	3/
Total supply	70.3	81.2	84.7	93.3	97.9	112.1
<u>Domestic disappearance</u>						
Food 4/	21.4	24.3	23.5	23.9	25.0	25.5
Seed	2.3	2.5	2.7	2.7	3.2	3.0
Used by brewers	4.5	4.3	4.7	5.3	5.4	6.0
Total	28.2	31.1	30.9	31.9	33.6	34.5
<u>Available for export and carryover</u>						
	42.1	50.1	53.8	61.4	64.3	77.6
<u>Total exports</u>						
For dollars	33.0	42.5	43.3	51.6	56.9	
Total disappearance	(15.1)	(25.0)	(27.1)	(29.6)	(34.7)	
	61.2	73.6	74.2	83.5	90.5	
<u>Carryover July 31</u>						
Privately owned--"Free"	8.6	7.7	8.2	8.5	6.8	
Total distribution	(5.7)	(6.6)	(7.6)	(8.3)	(6.7)	
	69.8	81.3	82.4	92.0	97.3	
Difference unaccounted 5/	+.5	-.1	+2.3	+1.3	+.6	
<u>Price Support</u>						
National average loan rate	4.59	4.71	4.50	4.50	4.55	4.60
<u>Price Received by farmers</u>						
Season average	4.87	4.90	4.93	4.95	4.97	5.00
Farm price above support	.28	.19	.43	.45	.42	.40

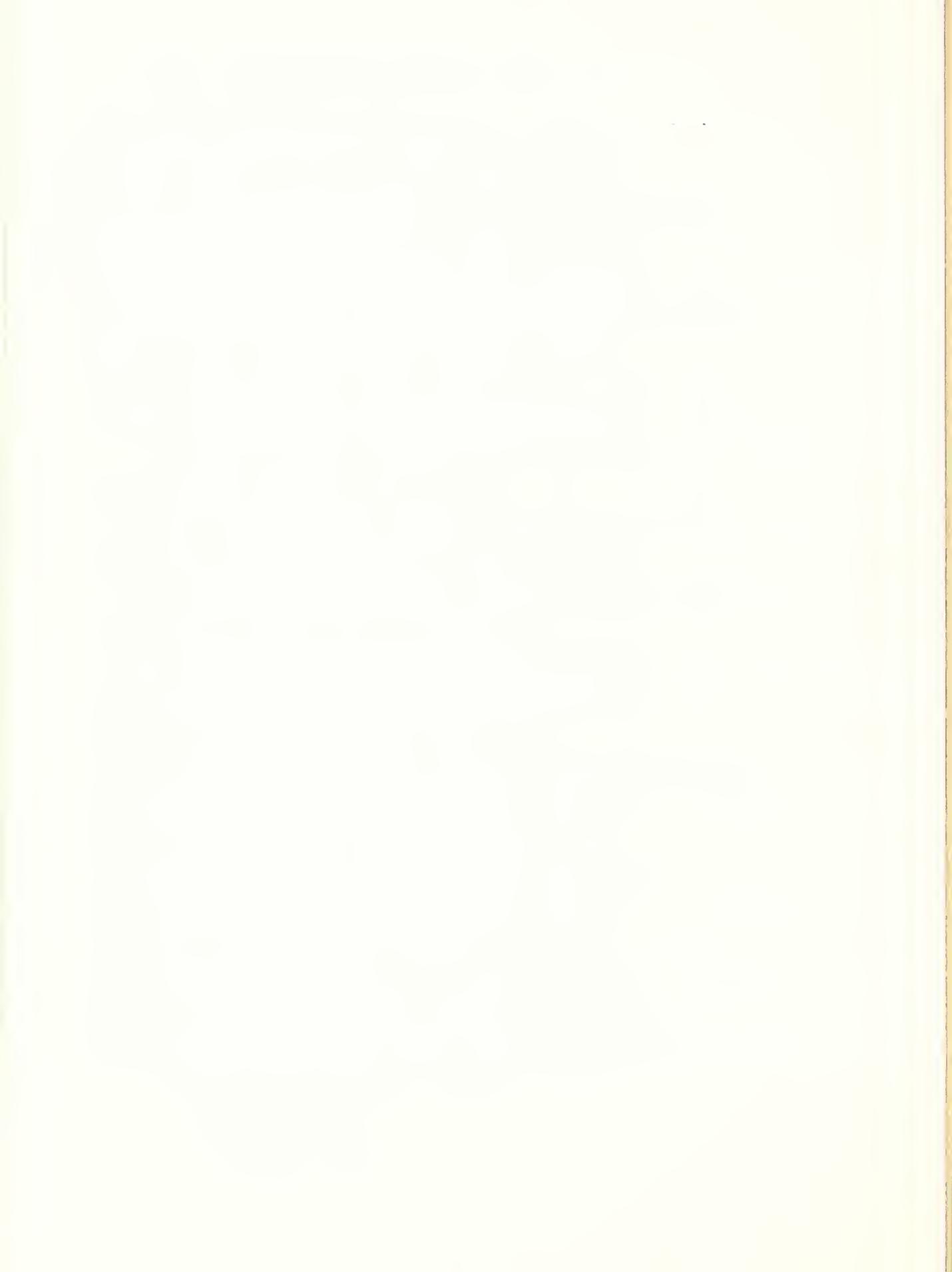
1/ Data apply to only major rice-producing States. Milled rice converted to rough basis at annual extraction rate. 2/ Preliminary. 3/ Less than 50,000 cwt. 4/ Includes shipments to U.S. territories and rice for military food use at home and aboard. 5/ Results from loss, waste, the variance in conversion factors, the lack of data on other uses, and the different crop years for the two rice areas.

Table 2.--Rice: Supply and distribution of rough and milled rice

Rough Rice	Year beginning August					
	1959-63	1964	1965	1966	1967	1968
	average	1/	1/	1/	1/	1/
<u>1,000 cwt.</u>						
Beginning carryover	6,204	5,187	4,905	5,480	6,197	3,460
Farm production	59,750	73,166	76,281	85,020	89,379	105,322
Supply	<u>65,954</u>	<u>78,353</u>	<u>81,186</u>	<u>90,500</u>	<u>95,576</u>	<u>108,782</u>
Seed Exports	2,280	2,464	2,702	2,688	3,217	3,000
218	126	169	161	205		
Used by mills	57,202	70,974	70,595	80,210	88,116	
Total disappearance	<u>59,700</u>	<u>73,564</u>	<u>73,466</u>	<u>83,059</u>	<u>91,538</u>	
Ending carryover	5,827	4,905	5,480	6,197	3,460	
Statistical discrepancies 2/	+427	-116	+2,240	+1,244	+578	
<u>1,000 cwt.</u>						
Milled Rice	1959-63	1964	1965	1966	1967	1968
	average	1/	1/	1/	1/	1/
Beginning carryover	2,807	1,692	1,995	1,991	1,684	2,418
Mill production	40,787	51,041	50,942	58,382	64,080	
Imports	213	338	482	6	5	
Supply	<u>43,807</u>	<u>53,071</u>	<u>53,419</u>	<u>60,379</u>	<u>65,769</u>	
Food						
Shipments to territories	2,957	2,820	2,752	2,764	2,605	
Used by military	121	154	82	100	148	
Civilian consumption	12,177	14,518	14,068	14,571	15,427	
Total Food	<u>15,255</u>	<u>17,492</u>	<u>16,902</u>	<u>17,435</u>	<u>18,180</u>	
Used by brewers	3,202	3,095	3,391	3,828	3,952	
Exports	23,403	30,489	31,135	37,432	41,219	
Total disappearance	<u>41,860</u>	<u>51,076</u>	<u>51,428</u>	<u>58,695</u>	<u>63,351</u>	
Ending carryover	1,947	1,995	1,991	1,684	2,418	
Per capita civilian consumption (pounds)	6.7	7.6	7.3	7.5	7.8	

1/ Preliminary.

2/ Results from loss, waste, the variance in conversion factors, the lack of data on other uses, and the different crop years for the two rice areas.



UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

OUTLOOK FOR OILSEEDS, FATS AND OILS

Talk by George W. Kromer
Economic and Statistical Analysis Division
at the 46th National Agricultural Outlook Conference
Washington, D.C., 2:00 P.M., Wednesday, February 19, 1969

In 1969 the United States likely will continue to account for at least one-fourth of the world's production of oilseeds, fats and oils, and around one-third of world exports. This has been our approximate share of the world market throughout the 1960's. However, U.S. export prospects this year appear slightly more favorable than in 1968 even though foreign competition continues keen. Here are some of the highlights of world supplies and competition which will have a bearing on our exports this year.

World production of fats and oils in 1969 is expected to reach an estimated record 41 million short tons (fat or oil equivalent), up about 1% from 1968, and 9% above the 1963-67 average. However, the prospective rate of increase from last year is considerably less than the rate of increase in any of the last 10 years. (The estimate includes edible and industrial oils produced largely from 1968 oilseed crops and palm, animal, and marine oils and fats produced in 1969.) The bulk of the increase in 1969 will be in the palm oils and industrial oils. This is in sharp contrast to earlier years when most of the increase was in edible oils.

Export availabilities from our foreign competitors probably will not expand as much in 1969 as they have in previous years. World sunflowerseed oil production--mostly USSR and other East European countries--is slightly lower this year than last (about 5%). India's peanut production will be down around 14%. Peanut crops in other countries--Mainland China, Nigeria, Senegal, Niger and Sudan--probably will show little net change from 1968. Foreign cottonseed production may increase slightly in 1969. World output of rapeseed, sesame, safflower, and olive oils probably will be slightly lower than last year. Fish oil production and exports may show a modest increase in 1969, depending upon how the catch turns out--particularly in Peru. Only the palm oil category is expected to show a significant increase in 1969--perhaps 8-10%. Copra and coconut oil production in the Philippines is likely to show a substantial gain from the typhoon-damaged 1968 output. A further rise in world production of palm oil is in prospect, as new plantings start to bear, parti-

cularly in Malaysia. World butter, lard, and tallow supplies and exports will continue heavy.

Let's examine for a moment how the world production of edible fats and oils shapes up relative to world population. Output increased about 35% from 1957 to 1968 while population advanced 25%. Net result: world production per person rose from under 18 pounds to $19\frac{1}{2}$ pounds. The big increase occurred in edible vegetable oils, which account for about 60% of total world production of 34 million short tons of edible fats and oils. World per capita consumption is still relatively low in comparison with ours. In the United States, the use of food fats and oils per person is 49-50 pounds annually. So there are opportunities for increasing fat consumption around the world--especially in the developing countries. Because of unfavorable balances of payments and limited consumer buying power, the developing countries have been unable to increase edible oil consumption appreciably.

Since early last fall there has been some general strengthening in prices of edible vegetable oils in European markets--notably sunflowerseed oil and peanut oil. Nevertheless, present price relationships are below averages of the past 5 years. In December 1968, the EEC reduced its levies on sunflowerseed oil from Eastern Europe (from \$40 per metric ton to \$25). Apparently, sunflowerseed oil is not considered as much of a threat to European domestic vegetable oils as thought earlier.

U.S. wholesale prices of edible fats and oils have also moved up. Soybean oil has shown the most significant gain, increasing from 7.3¢ per pound (crude, Decatur) last October to 8.5-9.0¢ in January. The higher price level mainly reflects CCC purchases of cottonseed oil--which halted the cotton oil price decline at a level almost 2¢ higher than soybean oil--a record offtake of soybean oil, the new USDA export payment program for lard to the United Kingdom, and the general strengthening of markets in Europe for edible vegetable oil. Prices of U.S. edible fats and oils probably will remain firm at levels slightly above last fall. However, they will be influenced by the duration of the longshoremen's strike and the support level (not yet announced) for the 1969 oilseed crops.

A factor which could influence U.S. soybean exports (and vegetable oils and meals as well) is the proposal now before the EEC to impose an internal consumption tax of \$60 per metric ton on vegetable oils and \$30 per metric ton on oilseed cakes and meals. Also, the support price for butter would be reduced by 36%, or by around $28\frac{1}{2}$ ¢ per pound. The purpose is to increase butter consumption (stocks of which are large) at the expense of vegetable oils. Other proposals, relating to the tax on such oils as peanut, rapeseed, and lauric oils may be to the detriment of U.S. exports of soybean and products, although the details are not known. The EEC Commission reportedly presented these proposals to the EEC Council during the session which began last December 16. To date, this proposal has not been approved by the Council. The U.S. Government and the soybean industry have registered strong protests against the proposal.

Now let us turn to the U.S. outlook.

The U.S. food fat supply during the 1968/69 marketing year (ending next September 30) is estimated at a record 20 billion pounds (in terms of oil), a tenth above 1967/68. The increase is due mainly to record supplies of soybeans--which represent about two-thirds of the total supply. Lard, cottonseed oil, butter, and other edible fats add up to about one-third. With abundant supplies of oilseeds and peanuts, farm prices for these crops will continue to average near U.S. Government support levels. Availabilities of food fats this year are well in excess of domestic requirements and a further buildup in soybean stocks will take place, despite a heavy export movement.

Soybean supplies for the 1968/69 marketing year are placed at a record $1\frac{1}{4}$ billion bushels, 17% more than last year. The expansion in soybean utilization has been slowing in the last 2 marketing years and only a slight gain is expected this year from the 900 million bushel level of 1967/68. Prospective use indicates that soybean carryover stocks next September 1 may exceed 300 million bushels compared with 167 million a year earlier.

Prices received by farmers for soybeans increased from \$2.32 per bushel during the heavy harvest last October to \$2.46 in January 1969, averaging slightly less than a year earlier. Large quantities of 1968-crop soybeans are under CCC loan--256 million bushels through December. Also, earlier-crop stocks are being withheld from the market by CCC or under reseal loan--128 million bushels--and this has tended to bolster prices since harvest. Farm prices during the remainder of the marketing year likely will average somewhat above harvest levels and near the U.S. support price of \$2.50 per bushel.

Soybean crushings for the current marketing year are estimated at around 585 million bushels, nearly 2% more than 1967/68. Demand for soybean meal is again outpacing oil demand, resulting in a sizable oil surplus above domestic requirements. The September-January crush of 250 million bushels (estimated) was about 4 million above the year earlier. The total 1968/69 crushings will depend upon such factors as our ability to export soybean oil and meal, the volume of cottonseed oil and meal acquired by CCC, and the 1969 soybean price support level (not yet announced).

Before the longshoremen's strike began in late December, soybean exports were running at record levels. From September 1 through December 27, inspections for export totaled 136 million bushels, 29 million above the same period a year earlier. Some of the increase reflected buying in anticipation of the strike. Since late December, exports have been at a standstill. Nevertheless, exports for the entire year may still total above 1967/68--perhaps by 15 to 20 million bushels over the 267 million last season. Lower U.S. soybean prices this year than last also are strengthening export prospects. West European countries, Japan, Canada, Israel, and Taiwan are the major foreign markets for U.S. beans.

Soybean oil supplies for the year ending September 30, 1969, are estimated at 6.8 billion pounds, up slightly from last year. Domestic disappear-

ance is forecast around 5.3 billion pounds, leaving 1.5 billion pounds available for export and carryout. The quantity of soybean oil shipped this marketing year will depend primarily on the level of activity under P.L. 480 programs--especially to India and Pakistan. During 1967/68, about 85% of the 1.0 billion pounds of soybean oil exported was under P.L. 480 programs.

Soybean meal supplies for 1968/69 are estimated at 14.2 million tons compared with 13.8 million 1967/68. Domestic disappearance is estimated at ~~a-~~ around 11.0 million tons--up from last year's 10.7 million tons. This leaves approximately 3.2 million tons available for export and carryout stocks.

Several major factors will influence domestic use of soybean meal this season. Slightly lower soybean meal prices and an increase in high-protein-consuming animal units will tend to increase meal use. But sharp increases in cottonseed meal supplies, continued heavy imports of fish meal (mainly from Peru), and strong competition from urea in cattle feeding will operate to curtail meal use.

Soybean meal exports this year could exceed last year's 2.9 million tons. Import demand continues strong in Western Europe, which accounts for about three-fourths of U.S. soybean meal exports. Most of the increased European meal requirements for mixed feeds this year probably will be met through larger imports of U.S. soybeans for crushing in Europe. Similarly, the demand for oilseed meal in Japan, which is increasing in line with the expanding requirements for mixed feeds by the poultry and livestock industry, is met mostly by imported soybeans for crushing in Japan. The dock strike has hampered meal exports, but many foreign buyers bought ahead in anticipation of the tie-up.

Soybean meal prices (44% protein, bulk, Decatur) declined from \$78 per ton in October to \$70 in January. The longshoremen's strike along with larger supplies of cottonseed meal, have put pressure on soybean meal prices. The strike caused some buildup in meal stocks, and a few processors reportedly limited their soybean crushings.

Cottonseed oil supplies for the marketing year ending July 31, 1969, are estimated at 1.6 billion pounds, compared with 1.3 billion last year. Domestic use may total around 1.1 billion pounds, just slightly more than last season, with the actual use depending partly upon the amount of oil CCC acquires under the support program. Cottonseed oil exports may increase slightly from the 53 million pounds of last season, due mainly to lower U.S. prices as a result of larger domestic supplies.

Due to the sharp drop in both oil and meal prices this season, CCC has acquired products from cottonseed crushers under the price support program. From late October through January, CCC had purchased 96 million pounds of cottonseed oil (at an average price of around 10.6¢ per pound) and 58,000 tons of cottonseed meal (at \$66 per ton). The CCC purchases have been mainly in the Southwestern area of the Cotton Belt where cottonseed crushers were unable to dispose of products at prices high enough to assure reasonable crushing margins--after paying support prices or better for the cottonseed. Oil

acquired by CCC is being held in storage. The method of handling meal acquisitions has not been announced.

Lard production for the 1968/69 marketing year is expected to approximate the 2.1 billion pounds of 1967/68. Hog slaughter is running higher this year than last, but lard yield per hog is down. Domestic use of lard is now expected to fall below the 1.8 billion pounds of 1967/68 but exports are expected to increase under the new export payment program.

In early December, USDA announced that a cash payment would be made to exporters of American lard to the United Kingdom. Payment rates are set and maintained for a 2-week period. The rate during January 13 through February 7 was 2¢ per pound. USDA plans to make export payments on about 75 million pounds of lard during January-March 1969. Cash payments are being made to boost U.S. lard exports to the United Kingdom, where Common Market subsidies had cut U.S. exports. The current EEC lard export subsidy is 3.345¢ per pound. However, American lard commands a price premium over EEC lard in the U.K., because of higher quality, so the new payment program should make us competitive in that market.

The volume of lard exports in 1968/69 will hinge largely upon the amount moved to the United Kingdom under the export payment program. In recent years, total lard exports (including shipments) have averaged around 245 million pounds annually, down considerably from prior years when they ran as high as 700 million pounds.

Lard prices (tanks, loose, Chicago) have moved up from 6.6¢ per pound last October to 8.0¢ in January 1969. Prices last summer were averaging below 6¢--the lowest in almost 30 years. Domestic prices during the remainder of the marketing year will remain higher as exports gain. In the short run, lard supplies cannot readily adjust to changes in demand. Thus, increased exports this year will result in smaller availabilities for domestic use and prices likely will average above the low level that prevailed in most of 1967/68. Soybean oil may replace some lard in domestic shortening and margarine manufacture.



UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

OUTLOOK FOR FRUITS IN 1969

Talk by Charles R. Brader
Economic and Statistical Analysis Division
at the 46th National Agricultural Outlook Conference
Washington, D.C., 2:00 P.M., Wednesday, February 19, 1969

General Supply and Price Prospects

Prospective supplies of fruits for marketing from now until new crop harvests begin are considerably larger than at this time last year. Cold storage supplies of apples are below normal. But inventories of most processed fruits are up. And much more fresh citrus is available.

Citrus Fruit

This season's citrus crop has been affected by various weather problems. An early spring drought was a concern in Florida, until broken by general rains in May. Serious damage was averted when a hurricane passed through the northern edge of Florida's citrus belt last October. More telling evidence was left, however, when freezes struck Florida, California, and Arizona in December. Grapefruit escaped serious damage. But Florida's orange crop was cut by 6 million boxes. And about 3 million boxes of oranges were lost in California. Damage to California lemons was even more severe--about 20 percent of the crop left on trees was destroyed.

Still, all citrus crops are expected to be bigger than a year ago. The increase in lemon output may be small. But U.S. orange production is expected to be 38 percent above last season. Florida's orange crop is up about a fourth; California's production is likely to be more than double last season's small crop. And both Texas and Arizona expect output gains.

The relatively moderate volume losses, however, are not the only consequences of the December freezes. Florida's yield of juice per box of oranges may be more than 15 percent below last season--in part the result of freeze damage. In California, where oranges are grown predominantly for fresh market, diversion of freeze-damaged fruit is expected to result in a larger than normal utilization for processing. Shipments of fresh oranges from Florida have been below a year earlier, but those from other States have been higher.

Grapefruit production is expected to be up 30 percent from last season and will be the largest crop in 21 years. Early season movement of grapefruit was running ahead of a year earlier in Texas and California. But grapefruit shipments from Florida are lagging considerably, because of delayed maturity.

Prices for fresh citrus--except grapefruit--strengthened immediately following the December freezes. Lemon prices increased most sharply, reflecting the extensive crop loss. But prices for most fresh citrus increased only moderately, and are currently below year-ago levels.

Of course, the large citrus crop this year also exerts a major influence on the processed citrus market. As the current packing season began, stocks of most processed citrus items (with the notable exception of canned grapefruit juice) were substantially below a year earlier. Early season processing began slowly--reflecting late crop maturity and a prevalence of small sizes. But the processing rate in Florida increased sharply after the freeze. And with much larger quantities of fresh fruit available, packs of most processed items are likely to be larger than last season's.

Supplies of processed grapefruit products may be considerably larger than in 1967/68. But with juice content of oranges down in Florida, supplies of processed orange products are likely to be moderate. In view of the 50 percent smaller carry-in, total supplies of frozen orange juice concentrate may fail to equal those of last season. In that event, wholesale prices are not likely to change much from current levels in the next few months.

Deciduous Fruit

Apples are the only domestic deciduous fruit now available in substantial volume. U.S. apple production fell for the 4th straight year in 1968. And current storage supplies are below average. Shipping point prices have been relatively high since harvest, and are likely to continue high during the rest of the storage season.

Output of most other deciduous fruits was up substantially last year. Total deciduous fruit production in 1968 was up 13 percent from a year earlier. And with greatest gains occurring among the leading processing fruits, supplies of canned fruits are up sharply from last season's levels. The U.S. canned peach pack was up more than a third from 1967. Fruit cocktail output was up a fourth to a new record. The 1968 canned pear and tart cherry packs were also up sharply. The principal exceptions were sweet cherries and purple plums. Canning of these two products was curtailed because of short crops in the Northwest.

Prices for most canned fruits turned down in late summer, as new-pack fruit reached market. The BLS index of wholesale canned fruit prices reached a high of 119 last April (1957-59=100). It held near that level in July, but fell sharply in August. In December, the index stood at 110, compared to 117 a year earlier.

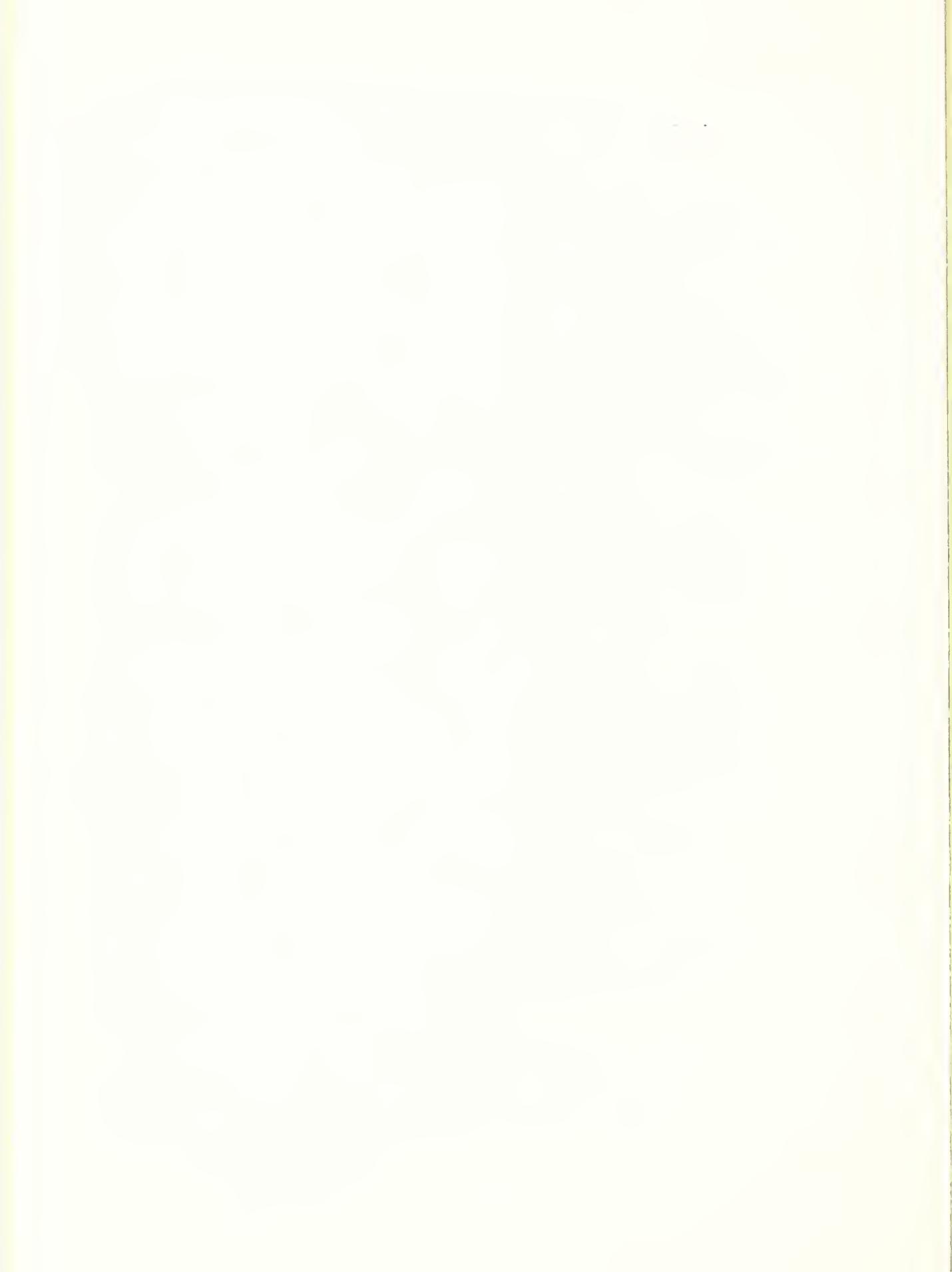
Output of frozen deciduous fruits in 1968 was probably moderately larger than in 1967. The pack of frozen strawberries--the leading frozen fruit--was probably down a little. U.S. production of strawberries for processing was 6 percent below the preceding year. Last spring's severe weather in the Northwest contributed to apparently substantial reductions in the packs of plums, sweet cherries and most bush berries. But packs of frozen apple products, tart cherries, and peaches were up sharply. On December 31, cold storage holdings of frozen noncitrus fruits totaled 549 million pounds, about 8 percent more than a year earlier.

U.S. dried fruit production in 1968/69 will be substantially above that of the preceding season--essentially because of an increase in raisin output. Although the carryover of raisins into the current season was sharply below the levels of a year earlier, total supplies are larger. And dried prunes are also plentiful. A larger carryover of dried prunes more than offset the effects of a slightly reduced crop in 1968.

Foreign Trade Outlook

Export prospects for 1968/69 vary among individual fruit items. In 1967/68, exports of many items fell, due in large part to reduced domestic supplies and high prices. Some recovery can be expected this season. But competition in traditional U.S. markets abroad has intensified appreciably in recent years. This is making it increasingly difficult to regain our high-volume export status of the early 1960's.

At the same time, the United States provides a growing outlet for imported fruits. Bananas have been a major import item for many years, and the U.S. market continues to expand. Other items have become important more recently. In the last decade, imported strawberries have developed an entrenched position in U.S. markets. Mexico is our principal foreign supplier of both frozen and fresh berries. Imports of processed pineapple products are also substantial, and trending upward. And with sharply expanding foreign production of a number of other fruits, producers abroad are increasingly prepared to exploit attractive domestic market conditions.



(*-*)

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

OUTLOOK FOR VEGETABLES AND POTATOES

Talk by Donald S. Kuryloski
Economic and Statistical Analysis Division
at the 46th National Agricultural Outlook Conference
Washington, D.C., 2:15 P.M., Wednesday, February 19, 1969

GENERAL SUPPLY AND DEMAND PROSPECTS

Supplies of canned and frozen vegetables are much larger than last season. Potato supplies are down moderately from the record of a year ago, but still plentiful. Sweetpotato stocks again are relatively light because of a small 1968 crop. Although well above a year ago, dry bean supplies are below average. Dry pea stocks also appear to be relatively small.

Because of efforts to curb inflationary forces, gains in the general economy during the next few months are not expected to match the big increases of last year. Nevertheless, economic activity is expected to be vigorous, with both employment and income at high levels. Rising personal incomes and population growth will result in a continued strong demand for vegetables.

Export demand prospects for vegetables are favorable. Sales to Canada, the main foreign buyer of our fresh vegetables and potatoes, probably will be larger this year. Movement to Europe also may expand somewhat; growth of this trade has been stimulated by the adoption of improved marketing techniques. Foreign demand for dry beans and peas is strong, and exports during 1968/69 probably will be much larger than last season.

PROCESSED VEGETABLES

Supplies of canned vegetables this season were up substantially from last season to a new record. Carryover stocks in mid-1968 were relatively large, and the total 1968 pack was the biggest ever. Frozen vegetable supplies also were much larger than last season. Although frozen output was up only slightly, carryover stocks were heavy.

Disappearance of processed vegetables so far appears to be running a little above that of a year ago. Even so, supplies available for sale this winter and spring are exceptionally large. Canned supplies in total probably

are close to a fourth larger than a year earlier, with every major item in plentiful to heavy supply. Stocks of beets, tomatoes, and all tomato products are up sharply. We have about a tenth more sweet corn and snap beans than a year ago, and stocks of peas and asparagus are up a little. Packers' holdings of kraut and pickles are smaller than in 1968, but above those of most earlier years.

Frozen vegetable stocks are nearly a tenth larger than a year ago. Supplies of snap beans are down a little from last year's record. But stocks of other items are up, and most are the largest of record.

Markets for processed vegetables have been weak this season. With supplies more than adequate, buyers are keeping their orders to short-term needs. Prices f.o.b. factories already have dropped considerably, and markets likely will stay under pressure the rest of the season.

Looking ahead to 1969/70, the total carryover of canned vegetables in mid-1969 will be far above a year earlier--up at least 50 percent and possibly much more. Frozen vegetable carryover supplies also will be considerably larger than a year earlier. As a result, many processors are expected to reduce packs. This in turn suggests that contract bargaining between processors and growers for 1969 crops will be more intense than in the last few years when increased output was desired.

For the longer term, the problem of surplus supplies for processed vegetables probably will not be solved this year. The economic history of this industry shows that there has been a substantial rise in production and consumption over the last three decades. History also tells us that processed vegetable production is cyclical, with a year of large output followed by several years of reduced crops as the industry adjusts inventories to market needs. Population growth and continued shifts from fresh to processed consumption mean a growing market need. But the output in 1968 was above that which will likely be needed in the early 1970's.

DRY BEANS AND PEAS

Dry bean production in 1968 amounted to 17.7 million hundredweight. This was 16 percent larger than the short output in 1967, but moderately below the 1962-66 average. Since carryover stocks were light, total bean supplies for the current season were only 5 percent larger than last season.

Among individual classes of beans, only a few are in relatively large supply. Supplies of pintos are up substantially due to a big crop in Colorado. We also have large supplies of pink, lima, and blackeye beans. But supplies of great northern and red kidney beans are the smallest in a decade, and are light relative to trade needs. Pea bean supplies also are somewhat tight, despite a larger output.

Domestic use of beans will be larger this season than last, with increased commercial sales supplemented by sizable Government donations. Exports during the fall were much above those of a year ago, with sales to western Europe particularly large. Because of a longshoreman's strike, export volume will be off this winter. But for the season, foreign trade will be up sharply.

The national average support price for 1968-crop beans is \$6.38 per hundredweight, slightly higher than a year earlier due to small adjustments for a few varieties or areas. Growers can request loans until March 31. The loans will mature April 30. The support program is being used more this year than last, particularly in the pinto growing areas of the West.

Prices for dry beans in midwinter generally are below last year's near record levels. However, with supplies light to moderate, prices for white classes are above average. Red kidney bean prices are relatively high, reflecting a tight supply. But there has been some pressure this season on the market for pintos, and prices for lima beans are the lowest in years. Prices are expected to stay close to current levels until new crop prospects materialize this summer.

Dry pea production was up slightly in 1968. Because of increased exports, however, disappearance is above last season's, and remaining stocks are substantially smaller than a year ago. With supplies down and export demand stronger, prices are the highest in several years. No major change is expected through the spring.

POTATOES AND SWEETPOTATOES

The potato market will go through its usual major seasonal transition during the next 4 to 5 months. Into about midspring, stored potatoes from last year's fall crop will furnish the bulk of supplies. And those remaining storage supplies are substantially below last year's record holdings. The largest decline is in the West where 1968 fall-crop output was down 6 percent, and disappearance so far has been heavy. The high rate of use there reflects more food processing. Although finished product stocks are record large, freezers have been operating close to capacity. Dehydrators also are more active this season than last. Large USDA purchases for distribution to needy families probably was an important stimulant to this industry. Grower prices in the West have been sharply above last year's depressed levels, and if processing demand holds up, continued relatively high prices appear likely.

Prices have also averaged relatively high for long-type potatoes grown in the Midwest and East. But market demand has been only fair for round red and round white potatoes, and movement so far appears to be down from a year ago. Disappearance during the next few months in both areas

probably will be under that of a year earlier when large quantities moved to starch or livestock feed in March and April under a USDA Section 32 diversion program. (There is no diversion program this winter.) Thus, late season storage supplies in the East and Midwest may be relatively large, and have a depressing effect on the market.

Market prospects for late spring are less certain since we still have only limited information about potential supplies during that period. However, early reports point to a moderate new-crop supply this year. Intended acreage for early spring harvest is down 5 percent. With average yields, output would be down substantially from last year's record. Late-spring crop acreage and production may be up from the low levels of 1968 due to an increase in the West. Growers in Arizona and California intend to plant substantially more acres. But average yields (well below 1968's high levels) would mean only a moderate increase in output. Intended acreage and potential tonnage in the Southeast is about the same as last year. With average yields, total late-spring production on the intended acreage would be moderately below the 1963-67 average.

Sweetpotato production last year, at 13.3 million hundredweight, was 3 percent smaller than in 1967 and a tenth below average. Because of reduced supplies and high prices, movement through early winter was a little below that of a year ago. Yet, stocks remaining for late season marketing probably are about the same as the tight supplies of last year. Shipments will decline seasonally during the next few months. Markets are expected to remain strong, with prices averaging close to last season's high levels.

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

OUTLOOK FOR TOBACCO

Talk by Robert H. Miller
Economic and Statistical Analysis Division
at the National Agricultural Outlook Conference
Washington, D.C., 2:00 P.M., Wednesday, February 19, 1969

The tobacco outlook for 1969 is highlighted by prospects for cigarette output and leaf exports to hold at last year's high levels. This would mean another reduction in carryover stocks. With average growing conditions, this year's tobacco crop could run larger, so supplies in 1969/70 may be near this year's ample levels.

Tobacco Products

Cigarettes take about four-fifth's of tobacco used in the United States. Cigarette output totaled about 580 billion last year--nearly 4 billion above 1967 and about 13 billion above 1966. Consumption by U.S. smokers (including shipments for overseas forces) is estimated at 550 billion--about the same as 1967. The number of cigarettes consumed per capita, 18 years and over, in 1968 was about 4,200 (210 packs), some 2 percent below 1967.

Retail cigarette prices rose in 1968, mostly due to increases in cigarette taxes in several States. The December 1968 BLS retail price index for filter-tip king-size cigarettes was $4\frac{1}{2}$ percent above a year ago.

More people are of smoking age and incomes are at record levels. But cigarette consumption in 1969 may do well to match the 1968 total because of further retail price increases and smoking-health publicity.

The 4-year moratorium that the 1965 Cigarette Labeling and Advertising Act imposed on the regulation of cigarette advertising expires July 1. Several bills to amend the Act have been introduced in Congress. The Federal Trade Commission and the Department of Health, Education, and Welfare, have recommended that the warning statement on cigarette packages be strengthened and that information on "tar" and nicotine levels in cigarette smoke also be required on cigarette packages and in cigarette advertising. In line with last year's FTC recommendation, the Federal Communication Commission this

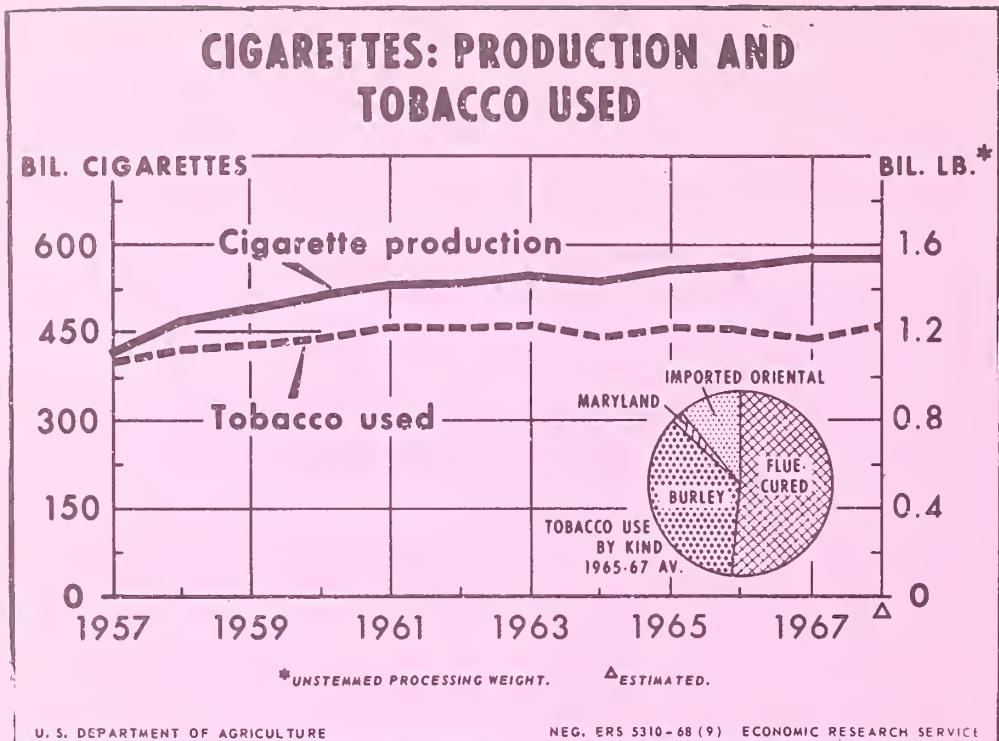


Figure 1

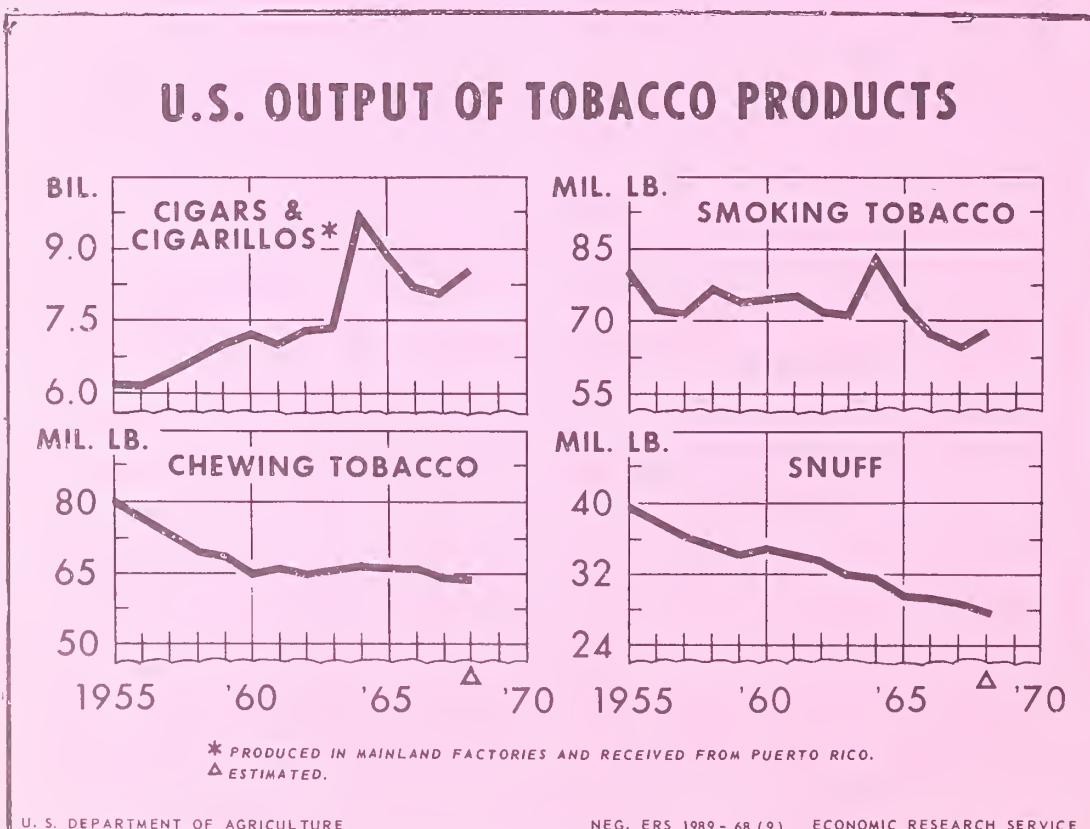


Figure 2

month proposed to ban cigarette advertising on television and radio. The FTC also recommends increased HEW spending for public education on hazards of smoking and for research to develop less hazardous cigarettes. FTC cigarette tests for "tar" and nicotine content are continuing.

Since the mid-1950's, the unstemmed tobacco used per 1,000 cigarettes has declined fairly steadily. The trend towards filter-tip cigarettes has been a factor. Other contributing factors have been substantially greater use of processed stems (midribs of leaves), use of reconstituted sheet made from stems and small fragments of leaf, and other manufacturing efficiencies.

The consumption of cigars (includes cigarillos) last year was about 8.1 billion, the same as in 1967, but about 10 percent below 1964. The downtrend in cigar production and consumption since the unusually high peak of 1964 stopped in 1968. Consumption per male 18 years and over was 129 cigars, about 1 percent below 1967. Cigars from Puerto Rico account for almost one-seventh of U.S. consumption. Total cigar consumption this year may not be markedly different than in 1968. But the emphasis on smaller, thinner shapes means less tobacco per cigar.

The 1968 output of smoking tobacco for pipes and roll-your-own cigarettes was 66 million pounds--2 percent above 1967. Imports of smoking tobacco in 1968 were around 5 million pounds. A further increase in smoking tobacco consumption may be expected for 1969.

Output of chewing tobacco was 65 million pounds last year--about the same as in 1967. Chewing tobacco output has remained fairly stable since 1960. Increases in scrap and fine-cut chewing have about offset decreases in plug and twist. Snuff production continues to decline. Per capita use of these products is expected to continue downward in 1969.

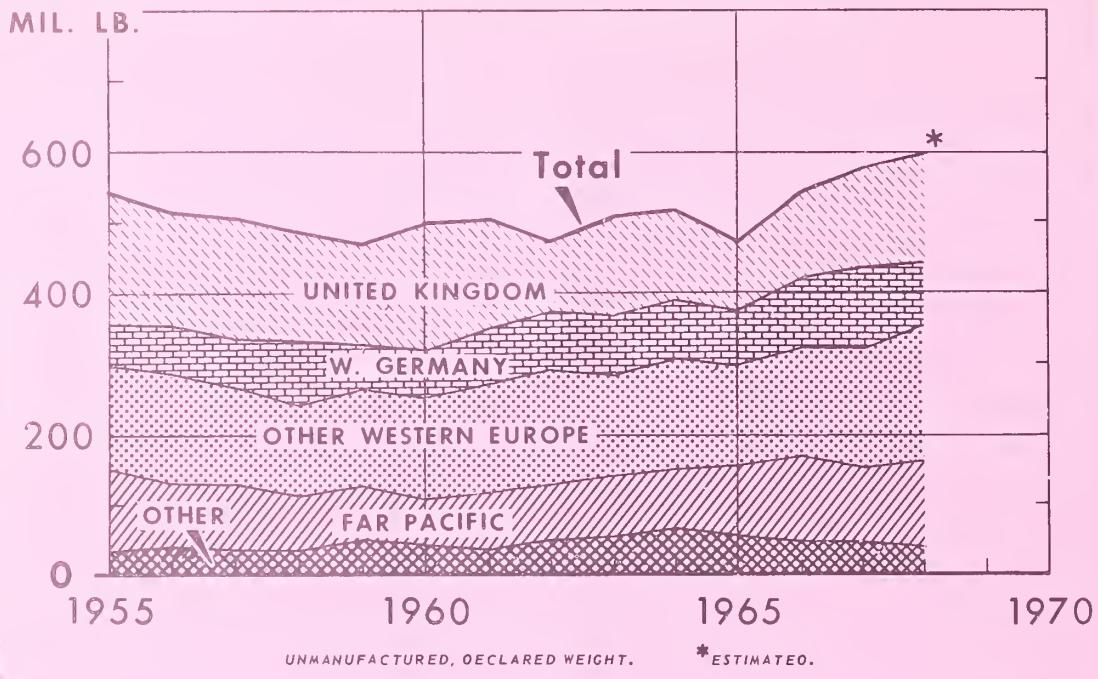
Foreign Trade

U.S. exports of tobacco and tobacco products were a record \$686 million in 1968. Both volume and unit value were higher than in 1967. Unmanufactured tobacco exports last year were valued at \$524 million and shipments of tobacco products also reached a record \$162 million. In recent years about 30 percent of the U.S. tobacco crop has been exported--representing about one-third of world export trade in tobacco.

U.S. exports of unmanufactured tobacco in 1968 totaled 599 million pounds (665 million, farm-sales weight)--5 percent above 1967 and the largest since 1946. During last year West Germany took less tobacco than in 1967 due to tax changes, while United Kingdom and other Western European countries took more. Several countries in Asia and Oceania also took more.

U.S. exports in 1969 will probably continue close to the 1968 high level. Helping U.S. exports are the U.N. sanctions against Rhodesia, the quality of recent flue-cured crops, and the U.S. export payment program. Adverse influences are higher tobacco duties, changes in foreign production methods, higher U.S. prices and expanded production by several heretofore minor producers.

EXPORT MARKETS FOR U. S. TOBACCO



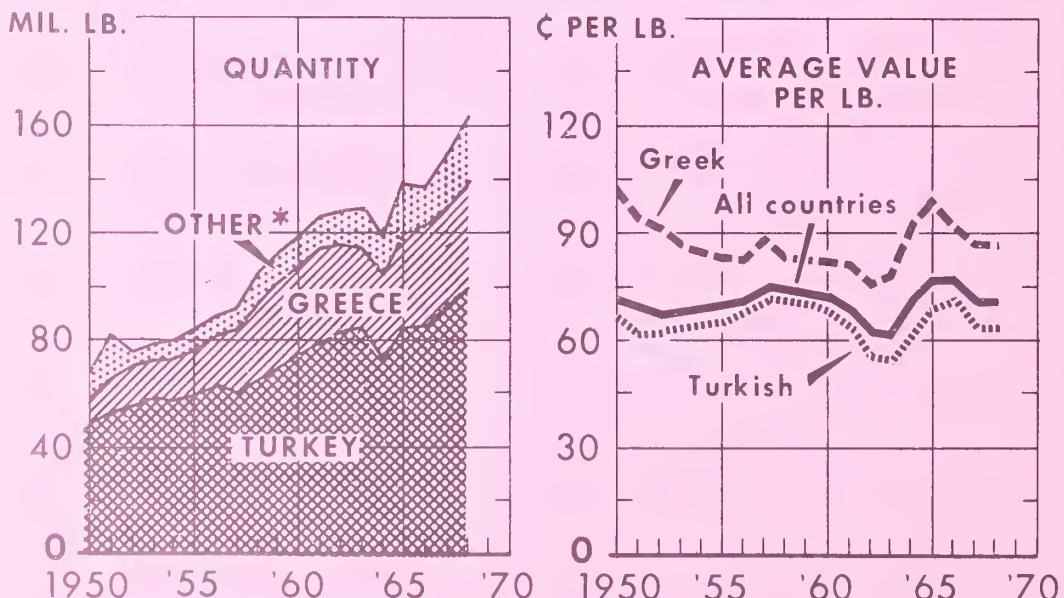
U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 938-69 (1)

ECONOMIC RESEARCH SERVICE

Figure 3

U. S. IMPORTS OF CIGARETTE TOBACCO



IMPORTS FOR CONSUMPTION. * PRIOR TO 1952 PRINCIPALLY SYRIA, RUSSIA, AND BULGARIA.
SINCE 1952 PRINCIPALLY YUGOSLAVIA, ITALY, CYPRUS AND SYRIA.
1968 IMPORTS, ESTIMATED; 1968 AVERAGE VALUES BASED ON 11 MONTHS.

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 924-69 (1)

ECONOMIC RESEARCH SERVICE

Figure 4

The largest market area for U.S. tobacco is Western Europe, and its total imports of unmanufactured tobacco have gained 2-3 percent annually in the 1960's. But shifts among suppliers are important and the EEC and U.K. preferential arrangements can adversely affect exports of countries outside these groups. In other markets where population is gaining more rapidly and per capita incomes are much lower, leaf use is gaining at a faster rate, but the demand is more limited for the higher priced U.S. supplies.

The United States is the third largest tobacco importing country because of demand for certain kinds of foreign tobacco for blending with domestic types in the manufacture of cigarettes and cigars. Oriental cigarette leaf is the principal kind of import; imports for consumption (factory use) last year rose about 12 million pounds to 163 million pounds--a gain of 8 percent over 1967. In addition 8 million pounds of oriental scrap and 2 million pounds of imported flue-cured and burley leaf were used last year.

Cigar tobacco imports are mainly filler tobacco including scrap. The Philippines is the leading source. During October 1967-September 1968 there were 75 million pounds (farm-sales weight) imported for consumption, up 12 million from a year earlier.

Import for consumption accounted for about one-sixth of domestic tobacco utilization last year, this high level of factory use will probably continue due to large foreign stocks in the United States and substantial exportable supplies overseas. Costs of U.S. and oriental leaf for cigarettes are similar, but oriental scrap carries a much lower value. Oriental tobacco is known to be low in nicotine content.

Leaf Tobacco

Smaller crops and carryovers have reduced supplies for the 1968/69 marketing year 5 percent below last year. Prices increased 4 percent and less tobacco is moving under loan this season. But the smaller volume of farm marketings meant farmers earned smaller incomes from the 1968 crop.

Government price support is mandatory for the kinds of tobacco produced under a marketing quota. The 1969 crop price support levels for eligible tobacco are expected to be 3.6 percent higher than in 1968. The increase results from a rise in the parity index (a measure of changes in prices paid by farmers, wages paid to hired labor, interest, and taxes).

The supply of flue-cured tobacco this marketing year is 6 percent below 1967/68 and 11 percent below the record 1964/65 level. Carryover stocks in mid-1968 were 1 percent above a year earlier. However, marketings from the 1968 crop were one-fifth below 1967 and the smallest since 1957.

The 1968 flue-cured crop auction prices averaged 66.5 cents per pound--2 cents above the previous season. Placements under Government loan amounted to 13 percent of market deliveries. In the 1967 season, 23 percent of market deliveries went under loan.

FLUE-CURED TOBACCO: SUPPLY, PRICE, USE

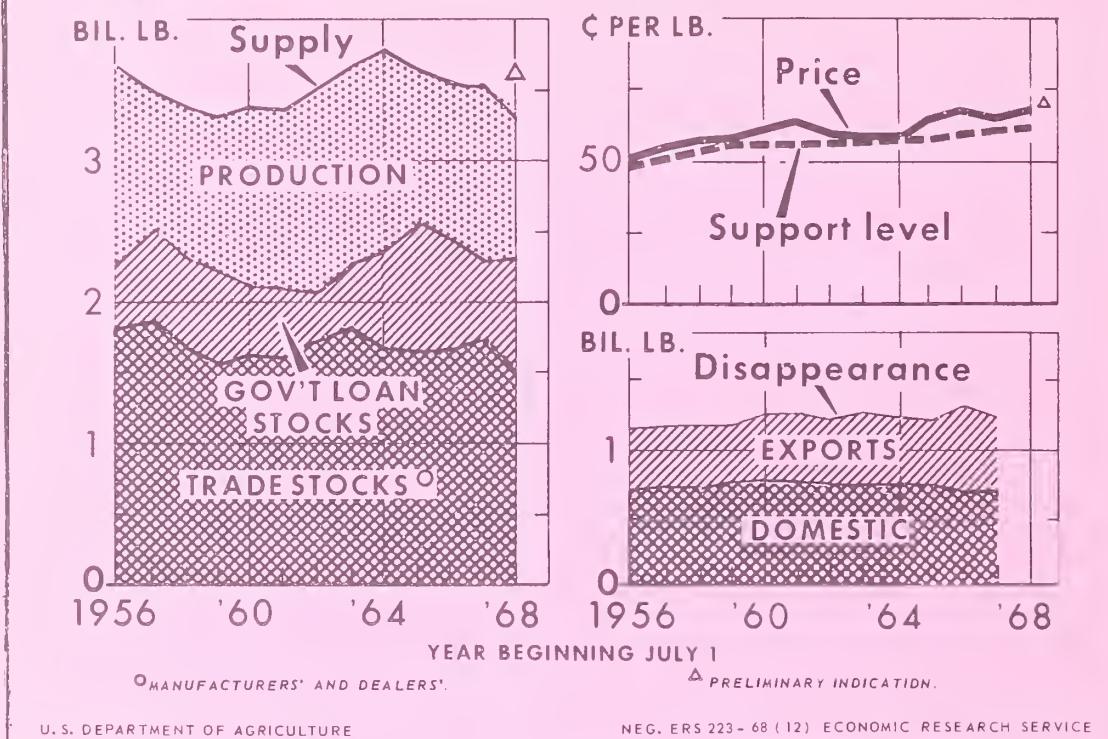


Figure 5

FREE WORLD EXPORTS OF FLUE-CURED TOBACCO

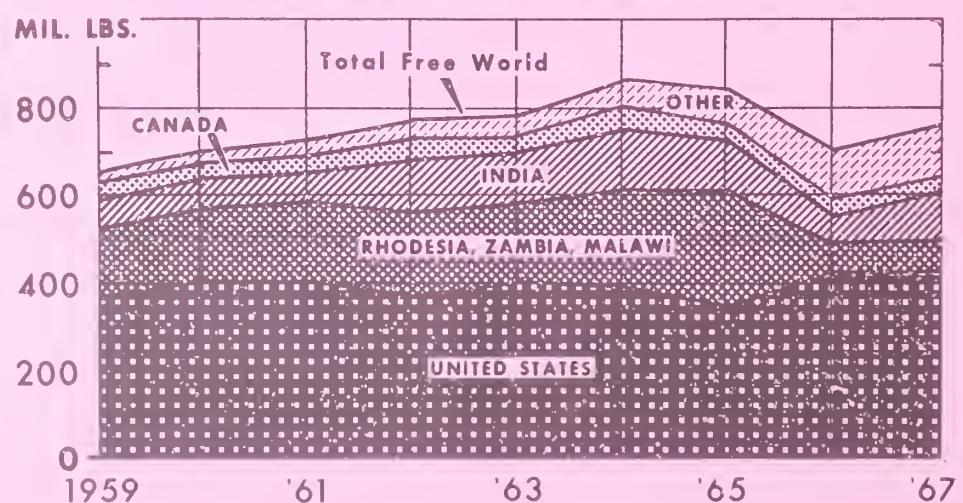


Figure 6

The proportion of types 11-13 flue-cured sold in untied form rose further in 1968. In these markets all grades could be marketed untied with price support during the entire season. Also helping in more orderly marketing were standardized presheeting, booking of warehouse space, and new warehouse conveyer systems.

Last marketing year, exports of flue-cured (over four-fifths of total U.S. tobacco exports) were 9 percent below the previous record high, and domestic use was steady. Exports for July-December 1968 were above a year earlier and domestic disappearance may have been nearly the same. If last year's disappearance of 1,221 million pounds is matched in 1968/69 this would bring the mid-1969 carryover of flue-cured down 10 percent to a little under 2,100 million pounds.

For 1969, the national flue-cured marketing quota is essentially the same as for 1968. Undermarketings from the 1968 crop exceeded overmarketings, so under the acreage-poundage program the effective poundage quota is around 1,200 million pounds. Thus, the 1969 production could be one-fifth larger than last year's. A 1969 crop at this level, plus the tentative carryover would provide a 1969/70 supply a little under this year's supply.

The 1968/69 supply of burley tobacco is 2 percent below the previous year and 8 percent below the 1964/65 record. Carryover on October 1 was about 3 percent less than a year earlier. The 1968 crop was above the reduced 1967 crop. The 1968 crop sold at a record price of 74 cents a pound. Loan placements, at 9 percent of the crop, were down from the 1967 season.

Domestic use of burley slipped some in 1967/68 and exports were down from the previous year's high level. Combined domestic use and exports in 1968/69 may equal last year's 594 million pounds with steady U.S. cigarette production and growing popularity of American-type blended cigarettes abroad. Although world demand for burley has increased, U.S. burley faces increased competition from expanded foreign production.

So the burley carryover next October 1 may drop some 3 percent below the last October 1 level. Although the acreage allotment for this year is the same as last year, the crop could turn out a little larger since yields have been trending upward. This would give a 1969/70 supply about the same as this year's supply.

For other tobaccos the current marketing year's supplies of fire-cured, Maryland, cigar filler, and cigar binder, are smaller than last season, while cigar wrapper and dark air-cured are about the same. Marketing quotas and acreage allotments for tobaccos under support were announced last month. Growers of Connecticut binder, Ohio filler and Wisconsin binder types are voting in referendums this month for or against quotas on their next 3 crops.

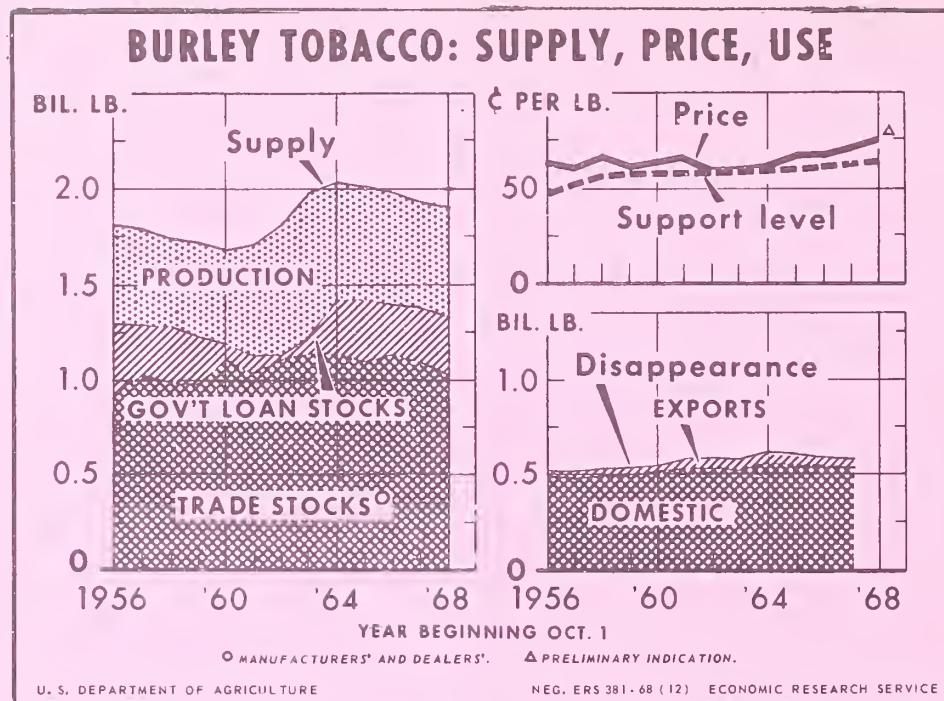


Figure 7

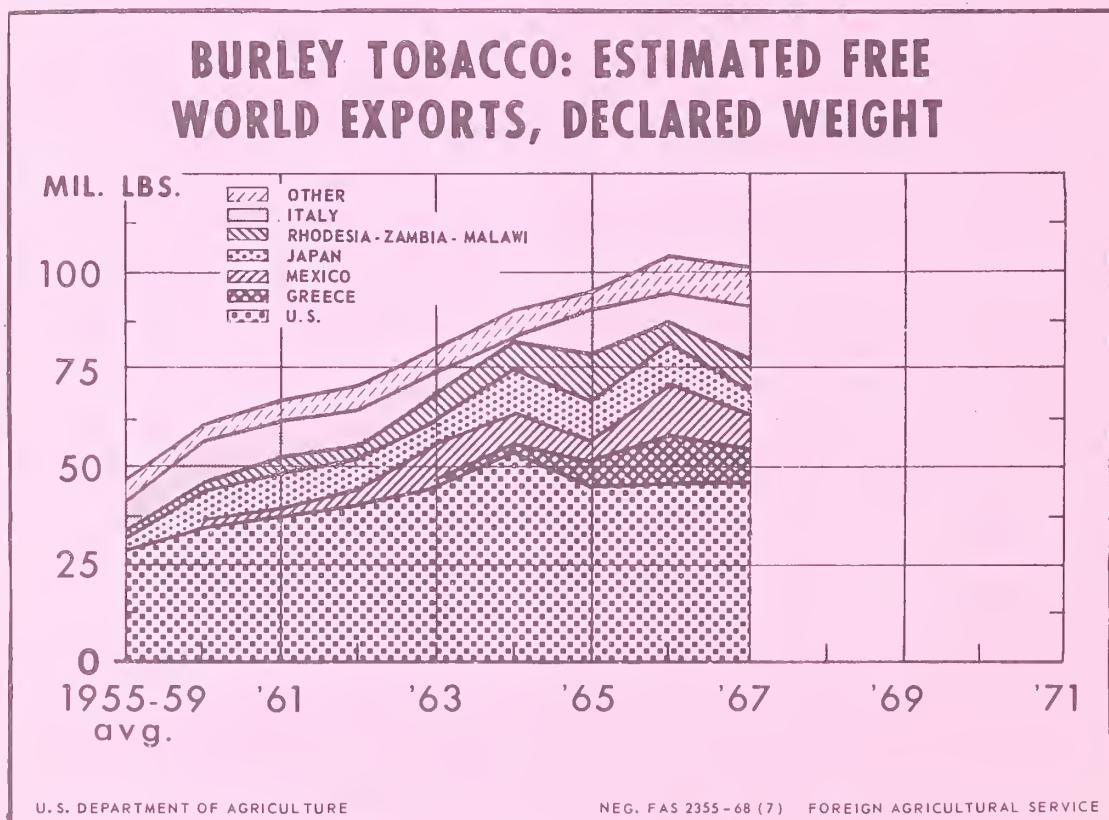


Figure 8

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

LONGER-RANGE PROSPECTS FOR DOMESTIC CONSUMPTION
OF CIGARETTE TOBACCO

Talk by Arthur G. Conover
Economic and Statistical Analysis Division
at the 46th National Agricultural Outlook Conference
Washington, D.C., 2:15 P.M., Wednesday, February 19, 1969

Cigarette manufacture in the United States absorbs over 57 percent of the tobacco grown in this country, exports account for about 31 percent, and other tobacco products take nearly 12 percent. For the leading cigarette tobaccos--flue-cured, burley and Maryland--their use in U.S. cigarettes accounts for about 55, 80, and 47 percent, respectively, of their total market.

Two major considerations are vitally important in assessing the longer-range prospects for domestic consumption of U.S. cigarette tobaccos:
(1) the prospective number of consumers and their rate of cigarette use, and
(2) the quantity of tobacco required to make the several sizes of cigarettes which go on the market and gain substantial acceptance.

Current and prospective cigarette
smokers and consumption

Available statistics can measure within narrow limits the number of cigarettes consumed in the United States in any given year. Administration of the Federal tax of 8 cents per package requires a count in order to assure the correct tax assessment. Also, all States except North Carolina tax cigarettes, and much sales data are generated from these sources.

In contrast to having a highly accurate count on total cigarettes consumed, the total number of cigarette smokers and average rates of consumption are not precisely known. As an indication, sample surveys can be used to produce estimates of cigarette consumption. But these estimates put consumption far below what is indicated by accurate data from tax sources. While survey data appear to reflect reasonable differentials in cigarette smoking between sexes and among age groups, under-reporting apparently occurs in estimates of the extent of smoking among some or all age-sex groups.

A projection of cigarette use in 1975

Several steps are needed for estimating and projecting the number of cigarette smokers and their consumption. Percentages of smokers and rates of smoking summarized from surveys must be adjusted upward to attain a reasonably accurate level of consumption. Such percentages then are applied to Census population data, taking account of consumption by the armed forces and institutional population (groups not covered in population samples surveyed).

An estimate for 1967 was derived in such a way. The number of cigarette smokers in the resident population 18 years and over was estimated at about 60 million. About 1-1/4 million men composed the U.S. overseas forces in 1967, and probably over 800,000 of them were cigarette smokers. Thus, of the total U.S. population 18 years and over, almost 61 million, about 48 percent were cigarette smokers in 1967.

There are indications that the percentages of cigarette smokers among the various age and sex subgroups of the population 18 years and over have declined some in the past few years. Smokers and potential smokers of cigarettes have seen substantial and increasing publicity on the smoking-health issue since the Surgeon General's report was published in January 1964. Many news stories, and expanding efforts by the U.S. Public Health Service and several voluntary health and other associations, have reported and dramatized smoking-health relationships. Also, the Federal Communications Commission has ruled that radio and television stations that carry cigarette advertising must devote a significant amount of broadcast time to publicity against cigarette smoking. This ruling was affirmed by a Federal appellate court in November 1968. On February 5, 1969, the FCC proposed to ban cigarette advertising (possibly excepting low-tar, low-nicotine cigarettes) from television and radio, but Congress can decide differently.

On the premise that such anti-cigarette efforts will continue in the next several years, a decline in the percentage of the population smoking cigarettes is projected to 1975. This illustrative projection, shown in the following table, assumes the share will decline in line with the rate of decline that seems indicated from available data.

The resident population 18 years and over will increase by nearly 12-1/2 percent by 1975. The projected decline in cigarette smokers as a share of this population is from 57 percent among males 18 and over in 1968 to near 50 percent in 1975. The comparable decline among females 18 and over is projected from about 36-1/2 percent in 1968 to near 33 percent in 1975. With these declining shares, an increasing population results in a very slight decrease in the number of cigarette smokers by 1975. Allowance has been made for a projected change in the age composition, whereby the heaviest smoking age-sex groups comprise a larger proportion of the total population in 1975, resulting in slightly increased average rates of consumption.

After taking account of other outlets for U.S. cigarettes, the projected total consumption of U.S. cigarettes in 1975 is about 580 billion, virtually unchanged from recent levels. This total includes cigarette exports.

							Change--
		Unit	1967	1968	1975		1968 to 1975
							<u>Percent</u>
Resident population							
Males	Million		60.7	61.5	69.2		12.5
Females	do.		<u>66.4</u>	<u>67.5</u>	<u>75.8</u>		<u>12.3</u>
Both sexes	do.		127.1	129.0	145.0		12.4
Cigarette smokers as share of resident population							
Males	Percent		58.3	57.1	50.4		-11.7
Females	do.		<u>37.2</u>	<u>36.4</u>	<u>32.2</u>		<u>-11.5</u>
Both sexes	do.		47.3	46.3	40.9		-11.7
Cigarette smokers							
Males	Million		35.4	35.1	34.9		-0.6
Females	do.		<u>24.7</u>	<u>24.6</u>	<u>24.4</u>		<u>-0.8</u>
Both sexes	do.		60.1	59.7	59.3		-0.7
Resident cigarette consumption							
Males	Billion		330	327	328		0.3
Females	do.		<u>184</u>	<u>183</u>	<u>184</u>		<u>0.5</u>
Both sexes	do.		514	510	512		0.4
Other cigarette outlets							
Exports	do.		24	26	32		23.1
Other*	do.		<u>38</u>	<u>44</u>	<u>36</u>		<u>-18.2</u>
Total consumption of U.S. cigarettes	do.		576	#580	580		0.0

* Mainly includes shipments for overseas forces, to Puerto Rico and other U.S. possessions, and consumption by persons under 18 years.

Matches estimated output.

Another cigarette projection to 1975

Another approach to projecting cigarette consumption to 1975 can be based on States' tax-paid sales volume. The per capita taxed sales for each of the 49 taxing States (and District of Columbia) were calculated for fiscal years 1965/66, 1966/67, and 1967/68. From 1965/66 to 1967/68 in 28 States (also District of Columbia) retail prices of cigarettes increased an average 12 percent while per capita State-taxed cigarette sales fell 6 percent. In the other 21 States the average price increase was about 1 percent and per capita taxed cigarettes increased 3/4 of 1 percent.

The recent 3-year trends in per capita sales data were extended to 1975 and multiplied by Census projections of State population in 1975 and aggregated. State-taxed sales of cigarettes do not cover cigarettes purchased on military bases. Also, the aggregated figure excluded cigarettes bought in North Carolina, where no tax is levied. Per capita data for individual States was computed by using the civilian population 18 years and over -- that is, excluding the armed forces stationed in the United States from total resident population. Projection for the 1975 civilian population 18 years and over was derived by assuming the 1964 level of resident armed forces and subtracting this figure from the Census projection of the 1975 total resident population 18 years and over in each State. The aggregated data for the 49 States (and D.C.) and the balancing items to match total cigarette output are as follows:

							Change --
	Unit	1966/67	1967/68	1975			1967/68
							to 1975
18 years and over:							
civilian population							
49 States and D.C.	Unit	1966/67	1967/68	1975			
and cigarette use							
							<u>Percent</u>
Civilian population	Million	120.9	122.7	139.4			13.6
Per capita: State-							
taxed cigarette sales	Number	3,954	3,847	3,529			-8.3
Total: State-taxed							
cigarette sales	Billion	478	472	492			4.2
Non-State-taxed							
cigarette sales*	do.	47	50	53			6.0
Total cigarette							
consumption in U.S.	do.	525	522	545			4.4
Other#		48	49	50			2.0
Total consumption of							
U.S. cigarettes	do.	573	571	595			4.2

* Includes cigarettes sold on military bases and in North Carolina.

Includes shipments to overseas military forces, to U.S. possessions, and exports.

According to this projection, per capita cigarette State-taxed sales would decline about 8 percent by 1975 if recent trends by States were to continue. The population increase, however, would tend to overcome this effect, implying a 4 percent increase in total cigarette consumption by 1975.

The quantity of tobacco required
for cigarettes

Since about the mid-1950's the average quantity of domestic tobacco used to make a thousand cigarettes has declined about 28 percent. The advent of manufactured tobacco sheet, the decrease in circumferences of cigarettes, the shortened tobacco column of the increasingly popular filter tip cigarettes, and the rising proportion of imported tobacco in cigarette blends -- all have contributed to the decline. Based on the experience of even the most recent years, a stable relationship between a given quantity of domestic tobacco and its manufacture into a thousand cigarettes is still not at hand.

Cigarette output in the United States fiscal year 1967/68 totaled 571 billion, 19 percent greater than in 1958/59. The quantity of domestic tobacco used for cigarettes in 1967/68 was about 1,145 million pounds (farm-sales weight), virtually the same as in 1958/59. (The comparison with 1958/59 was chosen because certain measurements of cigarettes were available for that period.) Changes in dimensions and composition of cigarettes and in the consumption pattern resulted in the reduction of about 215 million pounds from what would have been required if the 1958/59 relationships had held firm.

The accountability of factors giving rise to this substantial reduction in requirements can be approximated, as follows:

	<u>Farm-sales weight</u>	
	<u>Million Pounds</u>	<u>Percentage Contribution</u>
Increased use of imported tobacco	58	27
Increased use of sheet tobacco	47	22
Shift from nonfilter tips to filter tips	43	20
Reduction in cigarette circum- ferences	43	20
Lengthened cigarette filters	<u>24</u>	<u>11</u>
	215	100

Thus increased use of imported tobacco accounted for around a fourth of the reduction in domestic tobacco, while use of sheet tobacco, shift to filter tips and slimmer cigarettes each accounted for about a fifth of the reduction.

The question at this point is whether these factors have run their course or whether future modifications along these lines will further diminish the domestic tobaccos required per thousand cigarettes. To a considerable extent the answer will depend upon consumer response to the many types of cigarettes offered. If tar and nicotine ratings become an increasingly important consideration in the choice of cigarettes, most of these factors likely will be operative. Under present testing procedures, reduced quantities of tobacco are a means of attaining lower tar and nicotine ratings.

Projections involving complex combinations of the influences of such factors would just be conjectural. Instead, I will conclude with some comments that are relevant.

Use of imported tobaccos -- aromatic kinds from Turkey, Greece, Yugoslavia, and other countries -- rose sharply in 1966/67 and 1967/68. In the first half of 1968/69, however, use of these tobaccos leveled. These tobaccos are known for low nicotine content.

An estimated 94 percent of the whole tobacco leaf including midrib (stem) of domestic types is processed for use in cigarettes. This contrasts with about 77 percent 15 years ago. The technology of tobacco sheet components and manufacture, and other sources of tobacco materials, may make possible further savings.

From 1958/59 to 1967/68 the proportion of filter tip cigarettes rose from about 47 to 73 percent of the total output, while the proportion of nonfilter tips declined from 53 to about 27 percent. A continuation of past trends could result in 88 percent filter tips and 12 percent nonfilter tips by 1975. Most filter tip cigarettes require less tobacco than nonfilter tips.

Most cigarette filters are 20 millimeters in length but some are longer. Perhaps by 1975 most filters will be longer than 20 millimeters and will have displaced some more tobacco.

In the past year, new cigarettes with reduced circumferences have gone into national distribution. They require less tobacco than other cigarettes. What share of the market will they eventually attain?

Finally, while cigarettes made in this country will remain a large outlet for U.S. tobacco growers in the years ahead, the prospects are not very promising for much growth of this outlet. Of course, favorable developments from new knowledge or technology in the smoking-health area cannot be ruled out.



(*-*)

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service

DIETS OF MEN, WOMEN, AND CHILDREN

Talk by Daniel A. Swope
Consumer and Food Economics Research Division
at the 46th Annual Agricultural Outlook Conference
Washington, D.C., 9:00 A.M., Wednesday, February 19, 1969

Since 1936, the United States Department of Agriculture has made five nationwide surveys of household food consumption. The objectives of these surveys have been to obtain information on the kinds and amounts of food used in American households. This continuing program of research, consisting of surveys made in 1936, 1942, 1948, 1955 and most recently 1965-66 has provided the basis for evaluation of diet quality at the household level and for study of changes in diets of population groups through the years.

Several new features were part of the most recent survey made in 1965-66. For the first time in nationwide studies, information was obtained for each of the four seasons instead of spring only, as in 1955 and earlier surveys.

The other major innovation has special significance for the analysis of the nutritive content and adequacy of people's diets. For the first time in a nationwide survey, information was also obtained on the food intake of individual members of households. These findings add an important new dimension to dietary surveys. Heretofore, it was only possible to assess the quality of the diet for the total household. The indication that households had sufficient food to meet recommended allowances for the principal nutrients provided no assurance, in itself, that persons in the households met the allowances. What was missing was a measure of the allocation of food supplies within households and a measure of food actually eaten, not just available for consumption at the kitchen or purchase level. In short, there was no way of answering the question: Which persons in the households had diets in need of improvement?

Today I will present some preliminary findings which will bring us a step closer to answering that question. As part of the spring 1965 portion of the recent survey, information was obtained on the food intake for one day--the previous 24-hour period, midnight to midnight--for 14,500 persons. This sample was drawn from 6,200 households included in the spring survey. Information was obtained on the kinds and quantities of food eaten at home and away from home, and between meals. This included frequency of eating and time of day.

Differences in the Survey of Households and Individual Persons

While the new information on the food intake of individual persons helps us to evaluate household diets, and more specifically, to pinpoint the need for dietary improvement, it should be understood at the outset that the results of the survey of individual diets are not exactly comparable with those from the survey of household diets. Here are a few of the principal ways in which the two surveys differ, by their very nature:

- First, for individuals we obtained information on food actually eaten, whereas the household data pertained to total food available and regarded as "used."
- In the household survey, quantities of food were reported "as purchased" or as they came into the kitchen; information on individual food intake was on the basis of the edible portion of food in the form in which it was served.
- For households, the period covered was 7 days, but for household members, information was obtained only for one day.
- There was an important difference in the handling of food away from home in the two surveys. For individuals, information was obtained on the actual kinds and quantities of food eaten away from home. In the household survey, information was obtained only for food used at home, but in calculating nutritional values, these data were adjusted on the basis of the number of meals eaten at home so as to account for food eaten away from home. Handling the data this way assumed that meals eaten away from home were equivalent to those eaten in the home.
- Because food information was obtained for only one day in the survey of individuals, it was not feasible to evaluate diets on a person-by-person basis and make distributions of persons by the nutritive content of their diets. Instead, averages were reported for 22 sex-age groups. The reason for handling the data this way is that one day was regarded as too short a period of time for the analysis of individual diets because of the wide day-to-day variation in what many people eat. Thus, it was felt that statements about the percent of persons whose diets were above or below recommended levels of the various nutrients would be misleading.

Method of Dietary Appraisal

For each of the 22 sex-age groups, the average number of calories and the average amounts of seven principal nutrients in the food eaten were calculated. These values were then compared with the recommended allowances for the group. The Recommended Dietary Allowances which were used were those published in 1968 by the Food and Nutrition Board of the National Academy of Sciences-National Research Council. At the time of the evaluation of the household diets, only the 1963 RDA's were in existence, but we have been able to use the most recently-issued allowances in appraising the diets of individuals.

Nutritive Value of Diets

For most of the sex-age groups, average diets approached or were above recommended allowances for protein, vitamin A value, thiamine, riboflavin, and ascorbic acid (fig. 1). Each asterisk in the chart shows a range of between 1 and 10 percent under the allowance. Thus, it is apparent that calcium and iron were the nutrients which were below allowances for more of the sex-age groups than any other nutrient, and for several of the groups these nutrients were 30 percent or more below the allowances.

For all groups, protein averaged above the recommended allowances, and ranged from 110 to 250 percent of the RDA.

Another general observation from the chart is that the diets of females were not as good as those of males.

A closer look at the level of calcium in diets shows that children under 9 years of age had calcium above the recommended allowances (fig. 2). Beyond age 9, however, adolescent girls and women obtained less calcium than did the males in the same age groups. Girls of ages 15 through 17 and women of ages 35 and over had diets which were 34 to 37 percent below the recommended allowances for calcium. Males between the ages of 18 and 34 had calcium in amounts above the recommended allowances, but boys between the ages of 9 and 17 and men 35 years and older were below the RDA for calcium.

The other nutrient most often found to be below recommended allowances was iron (fig. 3). The groups with diets containing iron in amounts under the recommended levels were principally infants and children under 3 years of age; girls and women between the ages of 9 and 55; and boys in the 12 through 14 year age group.

For some age groups, the new 1968 RDA's for iron are well above those in the previous recommendations issued in 1963. In setting these new levels for iron, the Food and Nutrition Board stated that it did not expect the recommended allowances for iron for some age groups to be met by ordinary food products. As a guideline, the Board indicated that ordinary diets could be expected to provide at least 6 milligrams of iron per 1,000 calories in the diet. Analysis of survey data indicated that diets of children and adolescents, from 1 through 19 years, did not have diets meeting this ratio of iron to calories. Nevertheless, the total iron in the diets of children 6 through 8 years and boys 9 through 11 and 18 through 19 years did meet the RDA.

Diets in Need of Improvement

In the foregoing discussion, it was evident that certain nutrients were found to be well below the recommended allowances for some groups. Nevertheless, it is difficult to develop a clear-cut ranking of specific age groups of men, women, and children whose diets need improvement, largely because no single group appeared to be decidedly worse off than any other. Furthermore, it is

NUTRIENTS LESS THAN THE RECOMMENDED DIETARY ALLOWANCES ▲

SEX-AGE (YEARS)	PROTEIN	CALCIUM	IRON	VITAMIN A VALUE	THIAMINE	RIBO- FLAVIN	ASCORBIC ACID
MALE AND FEMALE: UNDER 1							
1-2				***			
3-5				***			
6-8				***			
MALE:							
9-11	**	*	*	*	*		
12-14	**	*	*	*	*		
15-17	**	*	*	*	*		
18-19				*			
20-34							
35-54							
55-64							
65-74							
75 & OVER				*			
FEMALE:							
9-11	**	**	**	**	**		
12-14	**	**	**	**	**		
15-17	**	**	**	**	**		
18-19	**	**	**	**	**		
20-34	**	**	**	**	**		
35-54	**	**	**	**	**		
55-64	**	**	**	**	**		
65-74	**	**	**	**	**		
75 & OVER	**	**	**	**	**		

* -1 THROUGH 10%

** -11 THROUGH 20%

*** -21 THROUGH 29%

**** -30% OR MORE

▲ NAS-NRC, 1968
U.S. DIETS OF MEN, WOMEN, AND CHILDREN, 1 DAY IN SPRING, 1965

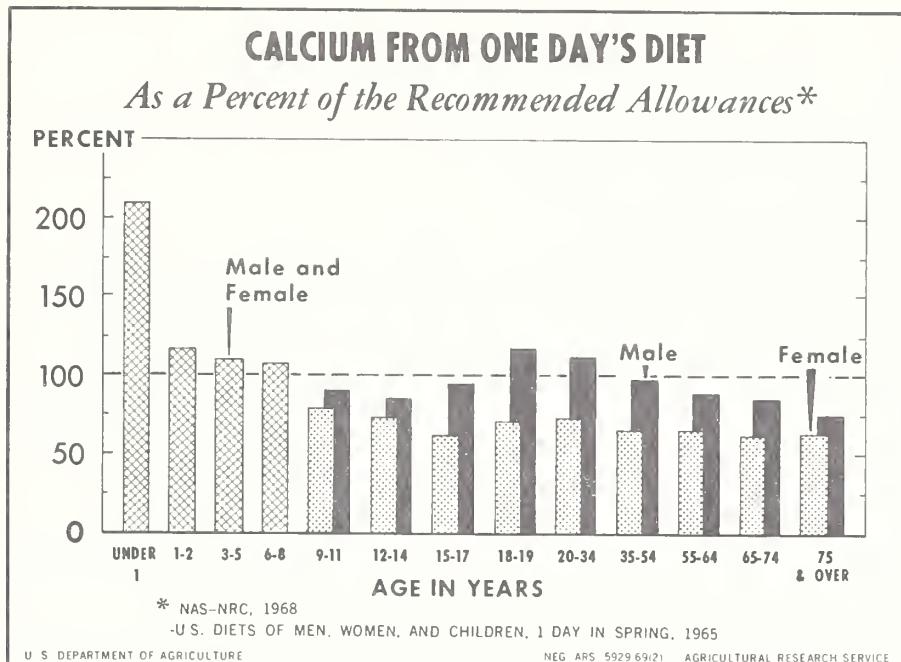


Figure 2

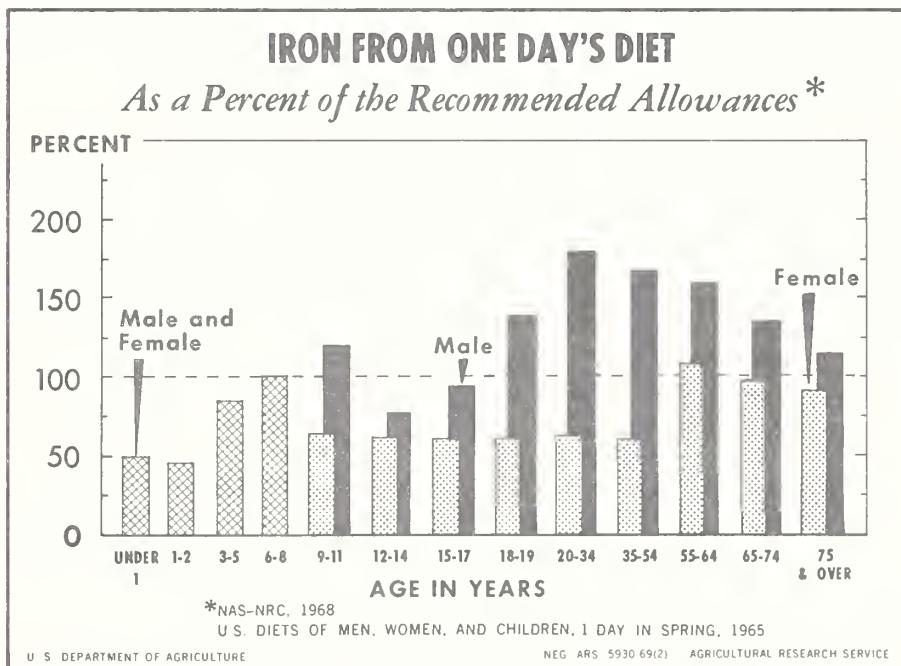


Figure 3

difficult to aggregate the various nutrients found to be under the RDA's in the hopes of finding some composite indicator of the dietary level for each sex-age group. To do so would require the determination of which nutrient is more important than any other. Also, it would raise the question as to whether a level, say, of 20 percent below the allowance for one nutrient is as significant as the same level for some other nutrient.

We can say, however, that if the average intake of food for a sex-age group provides a nutrient in an average amount which is below the RDA for that group, some persons receive that nutrient in amounts even lower than the group average.

On that assumption, let us reexamine the first chart to observe which sex-age groups had diets that were low in several nutrients. These groups could be regarded as the ones for which there is a clear indication of needed dietary improvement:

- Adolescent girls and women, ages 9 through 64.--Calcium was under the RDA in all female groups in this age range by at least 20 percent, and in some, over 30 percent. Levels of iron in the diets were 30 percent or more below the recommended allowances except for women of ages 55-64. Also, these groups were under the RDA's for thiamine, although only to the extent of about 1 to 10 percent.
- Older men and women.--Women 65 and over had diets which were under the allowances for more nutrients than the younger age groups, being more than 30 percent below the RDA's for calcium and also under the allowances for thiamine, riboflavin, iron, and vitamin A value. Men of the upper age group, 75 years and over, averaged 24 percent below the allowances for calcium and also were found to have diets that averaged somewhat under the allowances for riboflavin, vitamin A value, and ascorbic acid.
- Infants and children under 3 years.--Iron in the diets of infants and children in this age group averaged about 50 percent under the recommended allowance. Other nutrients were found to be above--some well above--the RDA's. Average amounts of protein, calcium, vitamin A value, and riboflavin in the food of infants under 1 year were several times the amounts of the recommended allowances.

Food Intake

The information obtained on kinds and amounts of food eaten by the individuals in the survey not only provided a means for calculating the nutritive content of the diets and the contribution of the various food groups to the nutrients studied, but it also provides interesting and useful data on food usage by the various sex-age groups.

Milk and Milk Products

Foods in this group were the major source of calcium in the diet, and in most sex-age groups, the major source of riboflavin. Quantities shown in the chart are in terms of fluid milk, with milk products equated to fluid milk on the basis of their calcium equivalent. It should be noted that although butter is a dairy product, it is not classified with this group but included with fats and oils.

The highest level of consumption was by children under 1 year, and the next highest by boys of ages 9 through 19. Boys and men used more milk products than girls and women in all age groups 9 years and above. Among females, a decline in consumption set in after the age group 9 through 11, and the quantity consumed was lower in each successive age group until women of ages 35-54, who were the lowest users of all groups. Their average consumption was not quite one cup a day in terms of whole fluid milk, or the calcium equivalent of milk products. Among males, a decline in consumption became evident beginning with age 20, when the competition of coffee and other beverages became influential, as will be noted later.

Meat, Poultry, Fish

For both males and females, consumption of meat, poultry, and fish increased until the peak consumption was reached in the 20 to 34 year group. Thereafter consumption declined. Quantities used by males were considerably higher than those eaten by females. Usage of foods in this high-protein group was generally high. Except for the very youngest children, over 85 percent reported using one or more foods from this group on the day of the survey.

Grain Products

Grain products were included in the diets of practically everyone. The leading form in which foods in this group were consumed was bread products, including rolls and biscuits. Boys and men used larger quantities of grain products than girls and women in all age groups 9 years and above. The highest level of intake was by boys of ages 15 through 19, who consumed average amounts equivalent to the weight of 6 slices of bread plus 7 ounces of other grain products.

Tomatoes and Citrus Fruit

Tomatoes and citrus fruits are recognized as good sources of ascorbic acid. Usage of these foods ranged from 19 percent of the infants under 1 year to 50 percent of the men and women in the 20 to 34 year group. Women of ages 55 through 74 years ate more tomatoes and citrus fruits than men in the same age group. This was an exception to the observation that men generally ate more of each food group than did women.

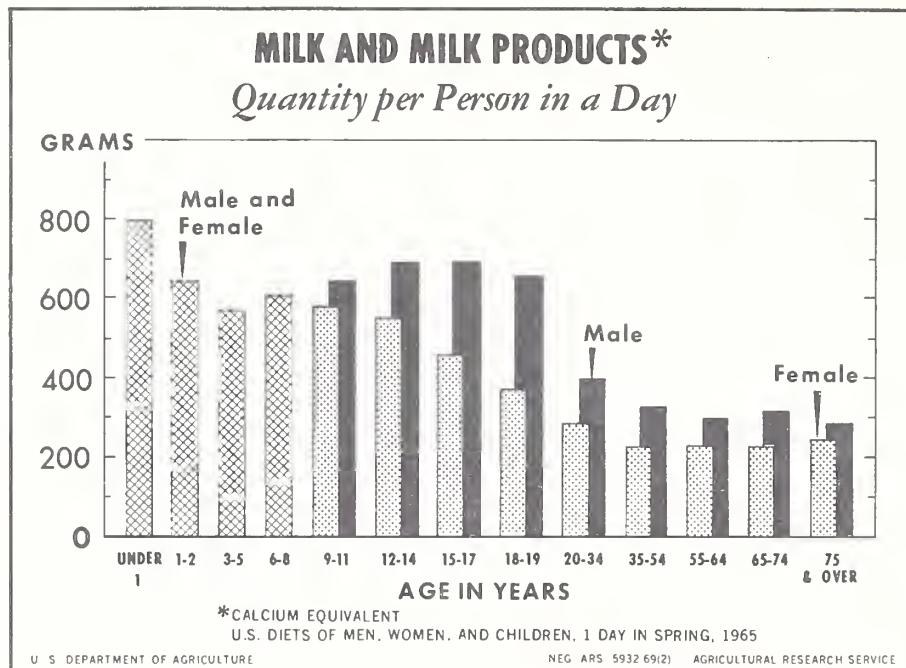


Figure 4

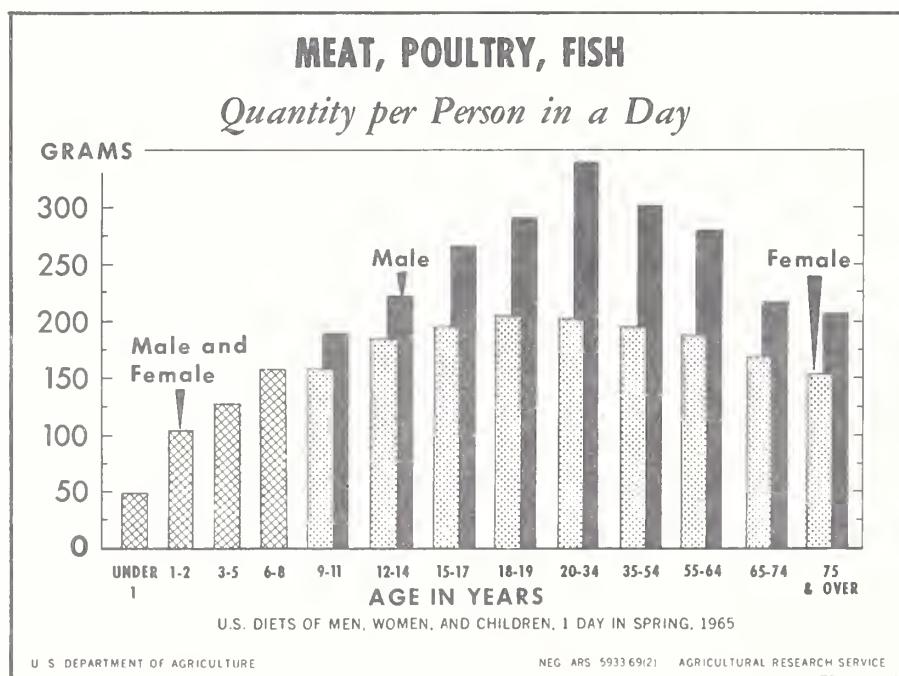


Figure 5

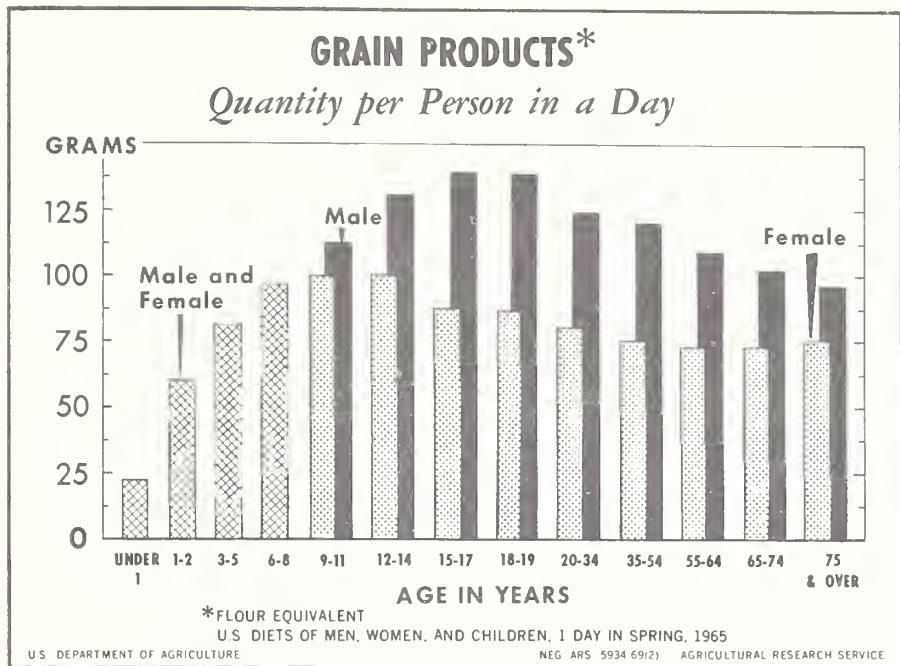


Figure 6

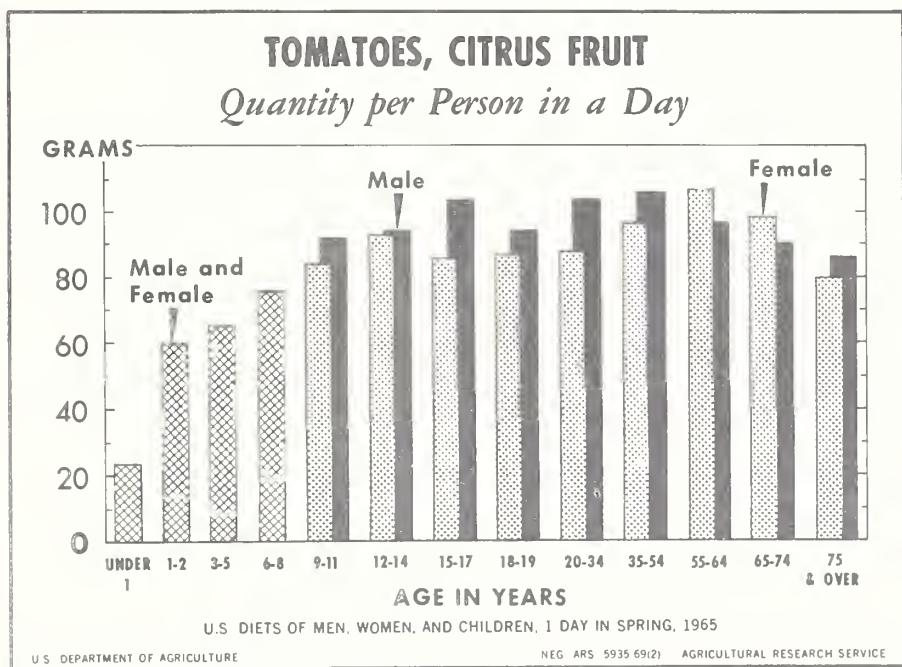


Figure 7

An interesting and possibly significant change in usage occurred in the adolescent age groups. Quantities consumed by girls dropped between the age groups of 12 through 14 and 15 through 17 but increased for boys in the same age groups.

Dark Green and Deep Yellow Vegetables

This group includes vegetables high in vitamin A value. Usage was relatively low--only 10 to 20 percent of the persons in the various age groups ate any of these vegetables in a day. The highest users were older males, those aged 65 through 74.

Beverages (other than milk and juices)

These beverages include coffee, tea, soft drinks, and alcoholic beverages. Consumption increased with age and the highest level of intake was by men and women in ages 35 through 54. The increase in coffee consumption after ages 18 through 19 is emphasized by the large increase in use by both men and women in the 20 through 34 year group.

Soft drinks constituted a large proportion of the beverages, in this group, used by children and adolescents. About one-third of the children and one-half of the adolescents reported using soft drinks in a day. Generally, the average quantities of milk and milk products consumed by persons in different age groups varied inversely with the average quantities of other beverages used.

Use of Vitamin or Mineral Supplements

One of the questions asked during the survey interviews was: "Did you take any vitamin or mineral pills, capsules, oil, or other supplements yesterday?" It is important to note that the information obtained was only whether or not supplements were used. Thus, there was no indication of kinds of supplements, amounts, or their composition, and consequently, the nutrients in these supplements were not included in calculating the nutrient content of diets.

The highest usage of these supplements was reported for infants, under 1 year--55 percent of them were given vitamin or mineral supplements during the day preceding the interview.

Among adults, persons 75 years and over were the most frequent users. One-third of them reported taking supplements the previous day.

Use of supplements declined from the peak for infants and 1 and 2 year-olds until ages 15 through 17, when only about 12 percent of boys and girls were using them. An upturn in use began with females of ages 18 and 19, but for males there was no very evident increase until ages 55 through 64.

DARK GREEN AND DEEP YELLOW VEGETABLES

Quantity per Person in a Day



U.S. DIETS OF MEN, WOMEN, AND CHILDREN, 1 DAY IN SPRING, 1965

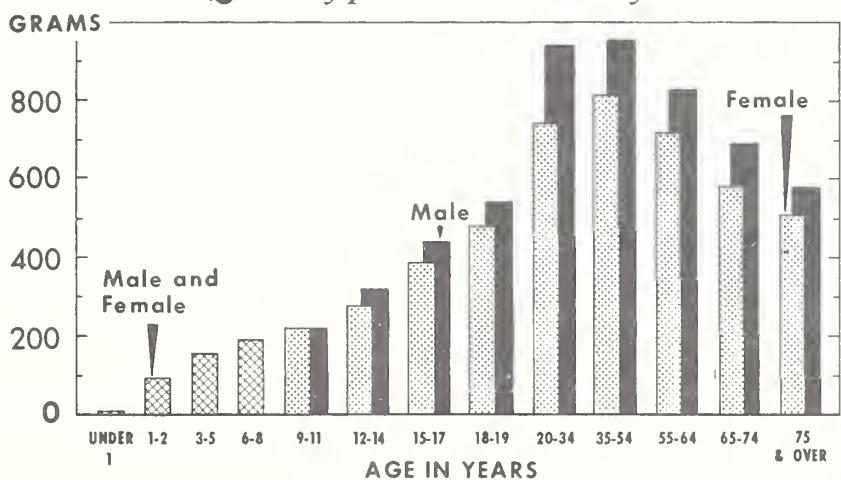
U.S. DEPARTMENT OF AGRICULTURE

NEG. ARS 5936 69(2) AGRICULTURAL RESEARCH SERVICE

Figure 8

BEVERAGES OTHER THAN MILK AND JUICES

Quantity per Person in a Day



U.S. DIETS OF MEN, WOMEN, AND CHILDREN, 1 DAY IN SPRING, 1965

U.S. DEPARTMENT OF AGRICULTURE

NEG. ARS 5937 69(2) AGRICULTURAL RESEARCH SERVICE

Figure 9

Implications for Nutrition Education

This report supplements the earlier report on dietary levels of households and points up the age groups with diets in need of improvement. It reinforces the need for increased consumption of milk and nonfat milk products, fruits and vegetables. In addition it indicates the need for better food sources of iron, especially for infants, young children, and for girls and women.

In the survey, no information was obtained on the nutritional status of individuals. Hence, no conclusions can be drawn concerning the existence of hunger or malnutrition. Nor should failure to meet the recommended dietary allowances be interpreted as need for indiscriminate fortification of foods with vitamins and minerals or self-prescribed supplementation of individual diets. On the other hand, results do imply the need for expanded efforts in nutrition education.

The availability of adequate food supplies in the household does not assure that each member gets foods of the kinds and amounts needed for an adequate diet. In nutrition education programs, emphasis might well be given to the following groups:

Adolescent girls.

Most women, but especially those up to age 55 and those 65 years and older.

Older men, especially those 75 years and over.

Nutrients that were most often below the recommended dietary allowances and foods that are good sources include:

Calcium -- milk and milk products (other than butter), some types of flour and cereal products, dark green leafy vegetables.

Iron -- lean red meats, organ meats, dark green vegetables, dry beans and peas, whole grain and enriched grain products.

Thiamine -- lean pork, dry beans and peas, and whole grain and enriched grain products.

Riboflavin -- milk and milk products (other than butter), meat, especially organ meats, dark green and leafy vegetables.

Vitamins A and C (especially in diets of low income families) -- fruits and vegetables.

Foods high in fat content should be deemphasized, especially in diets of adolescent boys and men. The percentage of calories from fat in the diets of men 20-64 years was found to be 45 percent, considered by many too high a level. Adolescent boys had diets with almost as high a proportion of calories from fat.

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service

DIETS OF LOW-INCOME FAMILIES 1/

Talk by Juanita A. Eagles
Consumer and Food Economics Research Division
at the 46th Annual Agricultural Outlook Conference
Washington, D.C., 9:45 A.M., Wednesday, February 19, 1969

There is widespread interest today in the diets of low-income families. Those of us in educational programs want to know how the level of income affects the kinds and amounts of foods that people choose. We want answers to such questions as: Do the poor use certain foods in larger quantities than families living on higher incomes? How do the poor divide their food dollar? Do the poor get maximum nutritional return for their food dollar? Do the poor have a diet which is adequate nutritionally?

The U.S. Department of Agriculture has conducted research on household food consumption for many years. Some surveys have been nationwide studies while others have been studies on a smaller scale to help with U.S. Department of Agriculture food assistance programs. The data to be reported here are from the most recent of the nationwide surveys and from ten surveys made in six locations of families eligible for assistance programs, whether participating in the programs or not.

Before reporting dietary information, the term "low-income families" will be defined. Then, using the data from the spring 1965 nationwide survey, findings regarding diets of low-income families will be compared with findings of higher income families. Finally, food consumption data for the poor in the six locations will be presented and compared with data for the nationwide low-income families. It is known that all families in the six locations were eligible for food assistance programs, therefore they may be assumed to have been poor. Not all of the nationwide low-income families may be termed "hard core" poor. Some were small families; others may have had a low income the year of the survey but a higher income other years; and some may have been farm families having non-money income.

1/ Priscilla D. Steele assisted in the preparation of this report.

I. Definition of Low-Income Families

The most recent nationwide survey for which data are being presented was made in the spring of 1965 of approximately 7,500 housekeeping households. "Low-income families" in this survey were assumed to be the households with 1964 money income, after taxes, under \$3,000. There were 1,717 of these low-income families.

The food assistance program studies were carried out during the period 1961-67. Almost 3,000 "low-income" housekeeping families were included in these surveys. They were eligible for participation in either the Food Donation or Food Stamp Programs. The criteria for eligibility with respect to income differed in the six locations. Also during the period of these surveys--from 1961 to 1967--both prices and incomes increased. Retail food prices as indicated by the Bureau of Labor Statistics index rose 11 percent. ^{2/} Median incomes of United States families rose from approximately \$5,700 to \$8,000. ^{3/}

In this report, monetary values are stated in terms of the purchasing power of the dollar in the year of each particular survey, without adjustments for changes in the price level.

II. Findings of Nationwide Survey, Spring 1965 ^{4/}

a. Food consumption

Many factors such as family characteristics, household equipment and facilities, and food preferences, in addition to income, influence the kinds of food used by the family. In general, however, it was found that the low-income families studied used more of the foods in the bread-cereal group but less of other foods than families living on higher incomes (Fig. 1). Foods included in the bread-cereal group are flour, flour mixes, cereals, bread and bakery products. Foods classified in the "meat group" include meat, poultry, fish, eggs, dry beans, dry peas, nuts, and mixtures mostly of meat. The "milk group" includes milk, cream, cheese, ice cream, and other frozen milk desserts. The "vegetable-fruit group" includes all vegetables and fruits and their juices. "Other food" contains the rest--fats, oils, sugars, sweets, and miscellaneous foods.

Differences in consumption of the meat group were not as great among income groups as were differences in consumption of the milk group and vegetable-fruit group. It is possible, however, that the consumption of

^{2/} U.S. Department of Labor, Bureau of Labor Statistics. Consumer Price Index, U.S. Index of Retail Prices--Food at home. (1957-59 = 100).

^{3/} U.S. Department of Commerce, Bureau of the Census, Current Population Reports, Consumer Income, Series P-60, Nos. 38 and 55.

^{4/} U.S. Department of Agriculture, Agricultural Research Service, Dietary Levels of Households in the United States, Spring 1965--A Preliminary Report. ARS 62-17, 34 pp. January 1968.

particular items within these broad commodity groups may have shown more variation among income levels. When there was more money to spend, there was increased consumption of meat, poultry and fish.

b. Money value of food

On the average, as income increased, more money was spent for food. In addition to the overall increase, the proportion of the total amount that was spent on food away from home increased sharply with income. At the low-income level \$2 out of every \$17, or about 12 percent, was spent on food eaten away from home (Fig. 2). At the \$7-10,000 income level, about 20 percent of the food money went for meals and between-meal snacks eaten away from home.

The division of the food dollar by food groups for families with incomes under \$3,000 and incomes from \$7-10,000 was similar. The food dollar refers to one dollar's worth of food including food purchased, home-produced, or received free. The vegetable-fruit group took 20 cents for both the low-income families and the families at the \$7-10,000 income level. The meat group took 37 cents for the lower income group and 38 cents for the higher income group. The milk group and the bread-cereal group each took 13 cents of the low-income food dollar and 12 cents of the higher income food dollar. Other foods took 17 cents for the lower income group and 18 cents for the higher income group.

c. Quality of diets

The nutritive content of the food used by each reporting household was compared with the National Academy of Sciences-National Research Council, Food and Nutrition Board's Recommended Dietary Allowances (1963). Diets were rated "good" if they furnished the recommended amounts of seven nutrients--protein, calcium, iron, vitamin A value, thiamine, riboflavin, and ascorbic acid. They were rated "poor" if they provided less than two-thirds of the allowance for one or more of the nutrients studied.

In general, the higher the income of the family, the better the diet nutritionally. Income is not the only factor, however, that influences food choices and high income itself does not assure a good diet. In the 1965 survey, some families with incomes of \$10,000 or more failed to meet the recommended levels of all nutrients; in fact, 9 percent of these families had diets that were classified as "poor" (Fig. 3). Similarly, low income does not necessarily mean that a poor diet is consumed. In the 1965 survey, 37 percent of the families in the lowest income group, that is, families with incomes under \$3,000, had diets rated "good."

A greater proportion of families with incomes under \$3,000 had diets below recommended amounts in two or more nutrients, 39 percent in comparison with 21 percent at incomes of \$7-10,000 (Fig. 4). Even at incomes of \$10,000 or more, 18 percent were below recommendations in two or more nutrients.

Diets were most often below recommendations in calcium, vitamin A value, and ascorbic acid. Low-income families used less of the chief food sources

of these nutrients--less milk and milk products and vegetables and fruit--than higher income families.

Low-income families on the average fared less well nutritionally than high-income families, no doubt chiefly because they had less money to spend for food. For they had a greater nutritional return for their food dollar than higher income families (Table 1). This was due to the fact that a number of the less expensive foods they used in proportionally large amounts, such as nonfat dry milk, have a high nutrient content in relation to their cost.

III. Findings of Ten Food Assistance Program Surveys, 1961-67 5/

The surveys were made in Detroit, Michigan; Fayette County, Pennsylvania; Choctaw County, Oklahoma; Escambia County, Florida; and Sunflower and Washington Counties, Mississippi. A total of ten surveys were conducted in the six locations. Separate surveys were made in both Detroit and Fayette County when the Food Donation and Food Stamp Programs were in operation; in Fayette County, separate surveys were made of urban and rural households.

a. Characteristics of households

As indicated above, all households surveyed were eligible for participation in the U.S. Department of Agriculture food assistance program available at the time of the interview. The proportion of eligible households that participated in Food Donation Programs was higher--30 percent in urban Fayette County to 78 percent in Choctaw County--than the proportion that participated in Food Stamp Programs--18 percent in urban Fayette County to 40 percent in Washington County (Table 2). It should be noted that most of the food stamp program surveys were made nearer the time of the introduction of the program than were the food donation program surveys. Some eligible families may have needed help in understanding the requirements for certification under the newly initiated program. Even the existence of the program may have been unknown to some.

The socio-economic characteristics of the groups studied varied considerably. Average income ranged from \$103 per family per month in Washington County to \$152 per family per month in Detroit (Table 3).

Average household size ranged from 3.02 persons in the urban Fayette County study when the food stamp plan was available and in Choctaw County, to 4.63 persons in Sunflower County. The proportion of 1-person families varied considerably, from 9 percent of the rural households surveyed in Fayette County at the time the Donation Program was in operation to 32 percent of households in the Washington County survey. Large families of seven or more persons made up 32 percent of the households in Sunflower County but only 6 and 7 percent of the urban households visited in the two surveys in Fayette County.

5/ These surveys were made cooperatively by Agricultural Research Service and Economics Research Service.

The head of the family was employed in only 20 to 27 percent of the households in the six studies in Detroit and Fayette County but in approximately 60 percent of the households in Sunflower County, with other locations falling between these values. Many families received some form of welfare assistance, ranging from approximately 25 percent of the urban households in Fayette County to approximately 60 percent of households in Choctaw and Escambia Counties.

In general, the homemaker was a person of little formal schooling who was not employed outside the home. The lowest proportion, 40-50 percent, of homemakers with 8 years or less of education was in Detroit and urban Fayette County and the highest, approximately 75 percent, the Mississippi counties.

b. Food consumption

Generally, the average consumption of bread and cereals for these families was about the same as for the low-income families in the nationwide study.

Urban Fayette County, with the highest per capita income, used less of the foods in the bread-cereal group than any other area; Sunflower County, with the lowest per capita income, used more than any other area (Table 4). The use of foods in the vegetable-fruit group compared favorably with the average consumption of these foods by families in the nationwide study with incomes under \$3,000 except for the three studies with the lowest per capita income--Escambia, Sunflower and Washington Counties.

The average consumption of milk and milk products in six of the studies was less than the average consumption of 3.6 quarts per person per week which was found in the nationwide study of families with incomes under \$3,000. Consumption was lowest in three of the southern locations--Washington, Sunflower and Escambia Counties--and in Detroit.

Average consumption of foods in the meat group generally was below the average consumption found for low-income families in the nationwide study. Families in Detroit used the most of these foods per capita while those in urban Fayette County used the least. Of the foods included in the meat group, consumption of meat, poultry and fish was also lowest for urban Fayette County families and greatest for Detroit, the area with the highest income per household per month (Table 5).

c. Money value of food

The average money value of all food used by the families eligible for the food assistance programs ranged from about \$4 per person per week for the families surveyed when the Food Donation Program was available in Escambia and Sunflower Counties to \$6.19 per person per week for the urban families in Fayette County also surveyed when the Food Donation Program was in effect. The money value of food includes the value of food which was obtained without direct expense--donated, home-produced or received as a gift or pay--in addition to the value of purchased foods.

The average money value of Federally donated foods ranged from \$.24 to \$1 a person a week in those counties in which the donation program was in effect at the time of the survey (Table 6). This wide range among the surveys is attributable to several factors. The list of foods made available by the Federal Government has grown over the years of the surveys. The foods available to families vary from place to place and from time to time. Finally, the participation rate varied among the surveys, accounting for some of the differences in the average money value of donated foods, the averages being based on all families in each of the surveys.

Families in the ten surveys spent relatively little on meals and between-meal food purchased and eaten away from home, 2 to 9 percent of the total value of their purchased food--a considerably smaller proportion than the 12 percent of the low-income families in the nationwide study. Families in Choctaw County and Escambia County had the highest money value of foods purchased and consumed away from home--35 and 26 cents a person a week, respectively.

The division of the food dollar was different for these low-income families than the division for families with incomes under \$3,000 in the nationwide survey. Families eligible for food assistance programs in four of the studies--in Detroit, Escambia County and Washington County--used 44 percent of the food dollar for foods included in the meat group; nationwide families with incomes under \$3,000 used 37 percent (Table 7). In five studies--in urban and rural Fayette County, and in Choctaw County--the value of the milk group exceeded the 13 cents of the dollar that was found for low-income families nationwide. In only one study (Fayette, rural, food stamp) did the value of the vegetable-fruit group approach the 20 cents of the dollar for families with incomes under \$3,000. In the Mississippi and Florida counties, only 13 to 15 percent of the dollar was used for vegetables and fruits.

Families in studies where the Food Distribution Program was in operation spent from 42 percent of their income for food in Choctaw County to 64 percent in urban Fayette County. The proportion of the income laid out for food (cash and coupons) by families in studies where the Food Stamp Program was available ranged from 53 percent in urban Fayette County to 68 percent in Detroit. The percentage of the income spent on food would of course be less, if the dollar value of the donated foods or of the bonus food stamps were added to income. Also the percentage of income spent on food by the food stamp group would be lower if the value of the bonus coupons could be deducted from the outlays for food.

d. Quality of diets

In the spot surveys of the so-called "hard-core" poor, diets were compared with the National Academy of Sciences-National Research Council, Food and Nutrition Board's Recommended Dietary Allowances (1958). Diets were rated "good" if they furnished the recommended amounts of the eight nutrients studied and "poor" if they failed to provide two-thirds of the allowance for

one or more of these nutrients. Findings from these studies are not directly comparable to the nationwide study because the 1965 survey used the 1963 revision of the Recommended Dietary Allowances to evaluate diets. Household diets in the low income studies would probably have been rated of slightly higher quality if comparisons had been made with the 1963 revision, largely because of reductions in the recommendations for B-vitamins and calcium for certain sex-age groups.

The proportion of diets rated "good" ranged from about 20 percent--in Escambia County and the two counties in Mississippi--to 41 percent--in Choctaw County. Diets rated "poor" ranged from 36 percent--in rural Fayette County--to about 60 percent--in Escambia County and the two Mississippi counties (Tables 8 and 9).

Diets rated "poor" could be nutritionally inadequate for some individuals over an extended period of time. No conclusions can be drawn on the existence of hunger or malnutrition, however, because no information on the nutritional status of individuals was obtained.

In the three counties with the lowest percentage of good diets and the largest of poor diets--Escambia, Sunflower and Washington--average per capita consumption of foods in the meat, milk, and vegetable-fruit groups were below those found in the nationwide survey for families with incomes under \$3,000. Money value of food per person per week was lower in these studies than in the other seven spot studies. Escambia County had more families, 64 percent, receiving welfare than any other location. Sunflower County had the largest household size. The two Mississippi counties had the highest proportion, over 75 percent, of women with education of 8 years or less; Escambia County had about 60 percent in this educational grouping. The three counties had a higher percentage of homemakers employed outside the home than the other studies.

Few families in these studies had a problem in obtaining enough protein in their diets. The percentages of households with food supplies furnishing the Recommended Dietary Allowance for protein ranged from 69 percent in Escambia County to 88 percent in Detroit (Donation Program survey), rural Fayette County (Donation Program survey) and Choctaw County. The range for those with food supplies furnishing less than two-thirds of the allowance for protein was 2 to 7 percent. Average amounts of protein are shown in Table 10.

A relatively large share of the protein came from animal sources, ranging from 52 percent in Sunflower County to 63 percent in Detroit (Stamp Program survey). The group of meat, poultry, fish was the major source of animal protein (Table 11).

Diets were most often found to be below the recommended levels for calcium, vitamin A value and ascorbic acid, as were the diets of households in the nationwide survey with incomes under \$3,000.

Only in rural Fayette County and in Choctaw County did the per capita amount of calcium reach the level of the low-income families in the nationwide study. In Sunflower County where there was a relatively low use of foods in the milk group there was, however, a relatively high per capita level of calcium. This was due to the extensive use of foods in the bread-cereal group. The kinds and quantities of grain products used by families in the Southeastern United States contributed a significant amount of calcium to the diet.

In eight of the ten studies, all except the two studies in Mississippi, families had more vitamin A in their diets than families in the nationwide study with incomes under \$3,000; in four of the studies--Detroit (Food Donation and Food Stamp), Escambia County and Choctaw County--they exceeded the amount of vitamin A value for families with \$7-10,000 in the nationwide survey.

In only one study, in rural Fayette County, did average quantities of ascorbic acid approach the level of low-income families nationally. Fewer households had food supplies that furnished the Recommended Dietary Allowances for ascorbic acid than for any other nutrient--ranging from 31 percent in Sunflower County to 60 percent in rural Fayette County (Stamp Program survey). The range for those with food supplies furnishing less than two-thirds the Recommended Dietary Allowances was 19 to 50 percent.

Families in the ten surveys had even greater return in calories and in most of the nutrients for their food dollar, on the average, than families with incomes under \$3,000 in the nationwide survey (Tables 1 and 12). They made good use of low-cost foods as a source of nutrients although they had little money to spend. For example, in three southern counties--Escambia, Sunflower and Washington--where a dollar's worth of food provided the highest amounts of calcium, the percentage furnished by grain products was high, ranging from 21 to 32 percent (Table 13). In Escambia and Choctaw Counties, dark green and deep yellow vegetables, generally inexpensive sources of vitamin A, contributed 60 percent of the total vitamin A value, a much higher percentage than in the other counties and nationwide (Table 14). In the four southern counties, the dark green and deep yellow vegetables were important contributors of ascorbic acid (Table 15).

Summary and Implications for Consumer Education Programs

In this paper, we have compared the diets of low-income families with higher income families as found in our nationwide survey. We found that these low-income families:

1. Used more of the foods in the bread-cereal group and less of other foods than higher income families.
2. Spent less money for food than higher income families but divided their food dollar amongst the food groups in about the same way as the higher income families.

3. Did not have diets of as high nutritional quality as the families with higher income. Low income of itself, however, did not necessarily mean that a poor diet was consumed. Diets were most often below recommendations in calcium, vitamin A value and ascorbic acid. They had a greater return for their food dollar than higher income families due to their use of less expensive foods in proportionally large amounts.

Some of the same findings emerged from a review of ten studies made in six locations of families eligible for the U.S. Department of Agriculture's food assistance programs. We found that these so-called "hard-core poor" families:

1. Used about the same amount of foods in the bread-cereal group and less of foods in the milk, meat, and vegetable-fruit groups than low-income families in the nationwide survey.
2. Spent less money for food than low-income families in the nationwide survey. They spent relatively little on meals and snacks purchased and eaten away from home. The division of the food dollar was different for these low-income families than the division for low-income families in the nationwide survey; nearly all spent more for the bread-cereal group and all spent less for the vegetable-fruit group. They spent a large percentage of their income for food.
3. Probably had diets of lower nutritional quality than low-income families in the nationwide survey. Precise comparisons cannot be made, however, because different standards were used for evaluation of the diets in the nationwide survey and in the ten smaller surveys.

Some families eligible for food assistance program had good diets. Those with poor diets were most often below recommendations in calcium, vitamin A value and ascorbic acid. It was not necessarily the group of families with the highest per capita income that had the highest intake of nutrients. In general, families eligible for the food assistance programs had a greater return for the money value of their food than low-income families in the nationwide survey.

Together, the findings of the nationwide survey and of the ten surveys would seem to indicate that consumer education programs conducted with low-income families should:

1. Help families become aware of and make use of available food assistance programs. Home gardens where practical might also be encouraged.
2. Help low-income families make the best use of the less expensive foods of high nutritive value. Help them see the importance of variation in

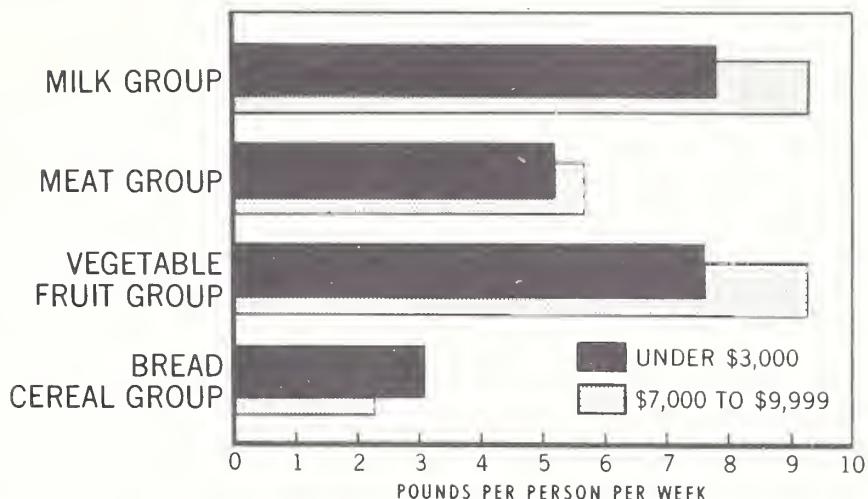
their diets, such as indicated in "Food for Thrifty Families Series." ^{6/} Encourage them to substitute some of the less expensive foods (in the four groups shown there) for more expensive foods.

3. Emphasize increased consumption of milk and milk products, fruits, and vegetables to help increase the nutrient quality of the diets especially with regard to calcium, vitamin A value and ascorbic acid.

^{6/} U.S. Department of Agriculture Federal Extension Service, with Agricultural Research Service and Consumer and Marketing Service cooperating. Food for Thrifty Families Series, Packets B and B-1. 1967.

INCOME AND FOOD USE

At low incomes, more bread and cereals, less of other foods



Household Food Consumption Surveys, Spring 1965 and 1955

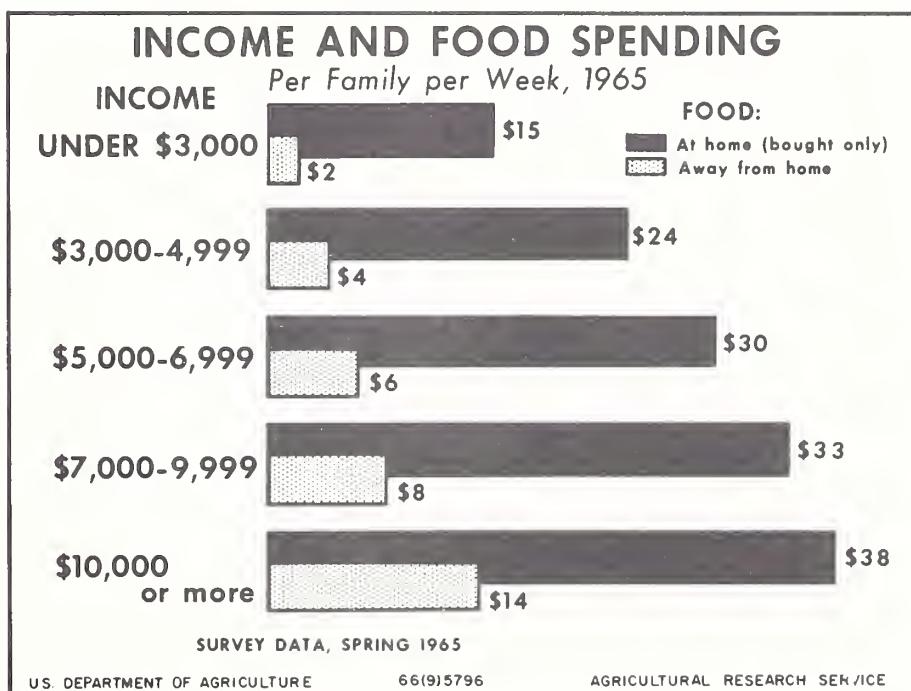
U.S. DEPARTMENT OF AGRICULTURE

All Households in U.S.

NEG. NO. 67(6) 5835

AGRICULTURAL RESEARCH SERVICE

Figure 1



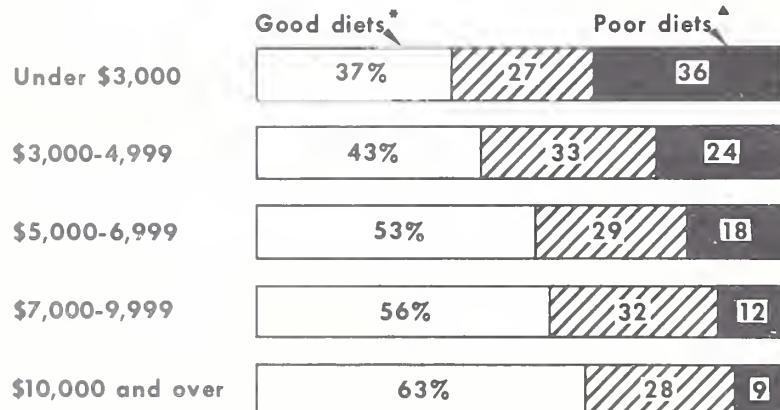
U.S. DEPARTMENT OF AGRICULTURE

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AGRICULTURAL RESEARCH SERVICE

Figure 2

INCOME AND QUALITY OF DIETS



* MET RECOMMENDED DIETARY ALLOWANCES FOR 7 NUTRIENTS.

▲ HAD LESS THAN 2/3 ALLOWANCE FOR 1 TO 7 NUTRIENTS.

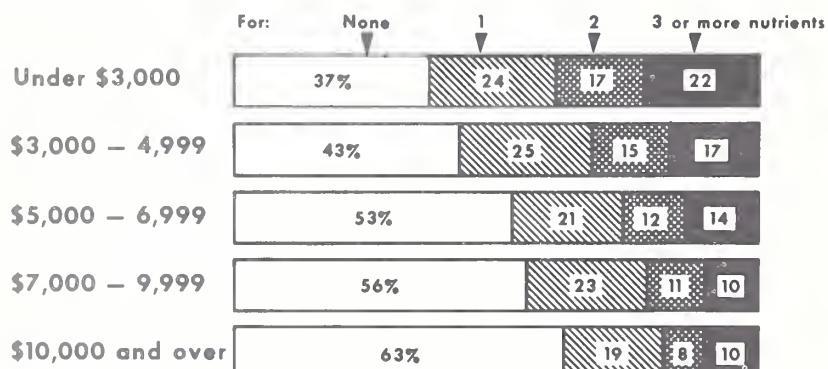
NATIONWIDE HOUSEHOLD FOOD CONSUMPTION SURVEY, SPRING 1965

U.S. DEPARTMENT OF AGRICULTURE

NEG ARS 5878 68 (2) AGRICULTURAL RESEARCH SERVICE

Figure 3

INCOME AND DIETS BELOW ALLOWANCES



RECOMMENDED DIETARY ALLOWANCES

NATIONWIDE HOUSEHOLD FOOD CONSUMPTION SURVEY, SPRING 1965

U.S. DEPARTMENT OF AGRICULTURE

NEG ARS 5883 68 (2) AGRICULTURAL RESEARCH SERVICE

Figure 4

Table 1.--Nutrients furnished by a dollar's worth of food, households in the United States, by income, spring 1965

Income (1)	A dollar's worth of food provided--				
	Food energy (2)	Protein (3)	Calcium (4)	Vitamin A value (5)	Ascorbic acid (6)
	Cal. (2)	G. (3)	Mg. (4)	I.U. (5)	Mg. (6)
Under \$3,000-----	3,150	99	1,090	6,860	85
\$3,000 to \$4,999-----	2,860	92	970	6,320	80
\$5,000 to \$6,999-----	2,570	85	890	5,990	81
\$7,000 to \$9,999-----	2,380	79	830	5,320	80
\$10,000 and over-----	2,100	72	750	5,180	82

Source: Dietary levels of households in the United States, spring 1965.
ARS 62-17. January 1968.

Table 2.--Selected characteristics of families eligible for USDA Food Programs, 10 surveys, 1961-67

Location and year of survey and Food Program available with percent participation	Total households	Urban	Household size 1/			Receiving welfare	Head employed 2/	Homemakers--		
			Average persons	1 person	7 or more persons			Not employed away from home (9)	8 or less years of schooling (10)	60 years of age and over (11)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Detroit, Mich., 1961:										
Donation (56)	454	100	4.19	15	19	41	23	81	46	19
Stamp (27)	361	100	4.16	16	19	42	27	81	42	18
Fayette Co., Pa., 1961:										
Urban:										
Donation (30)	226	100	3.11	19	6	24	22	87	44	35
Stamp (18)	177	100	3.02	23	7	21	22	87	46	38
Rural:										
Donation (58)	264	0	4.06	9	14	36	27	91	55	19
Stamp (35)	264	0	3.88	14	13	40	20	88	60	26
Choctaw Co., Okla., 1962:										
Donation (78)	510	29	3.02	26	10	56	34	82	65	40
Escambia Co., Fla., 1963:										
Donation (59)	224	N/A	3.80	17	17	64	45	54	61	26
Sunflower Co., Miss., 1967:										
Donation (77)	189	34	4.63	16	32	30	59	73	76	27
Washington Co., Miss., 1967:										
Stamp (40)	295	62	3.69	33	20	39	47	66	78	35

1/ A person equals 21 meals from home food supplies.
 2/ Household head employed whether male or female.

Table 3.--Income and money value of food, families eligible for USDA Food Programs, 10 surveys, 1961-67

Location and year of survey and Food Program available with percent participation	Income per month		Income spent for food 3/	Total (5)	Money value of food per person per week				Without direct expense 4/	
	Per family 1/	Per person 2/			Purchased food--					
	(2)	(3)			(6)	(7)	(8)			
Detroit, Mich., 1961:										
Donation (56)-----	148	36	58	5.40	4.86	4.73	0.13	0.54		
Stamp (27)-----	152	37	68	6.00	5.81	5.63	.18	.19		
Fayette Co., Pa., 1961:										
Urban:										
Donation (30)-----	121	39	64	6.19	5.77	5.62	.15	.41		
Stamp (18)-----	131	44	53	5.70	5.39	5.26	.13	.31		
Rural:										
Donation (58)-----	140	35	61	6.00	4.93	4.77	.16	1.08		
Stamp (35)-----	137	36	62	5.72	5.19	5.09	.10	.57		
Choctaw Co., Okla., 1962:										
Donation (78)-----	125	40	42	5.95	3.85	3.50	.35	2.09		
Escambia Co., Fla., 1963:										
Donation (59)-----	137	35	45	3.99	3.60	3.34	.26	.39		
Sunflower Co., Miss., 1967:										
Donation (77)-----	115	24	47	4.02	2.62	2.49	.13	1.40		
Washington Co., Miss., 1967:										
Stamp (40)-----	103	26	62	4.08	3.71	3.59	.12	.37		

1/ Average income per family of month preceding survey.

2/ Income per family per month divided by average family size (count of members).

3/ Percent of month's income spent for purchased food.

4/ Includes foods donated, home produced, and received as gift or pay.

Table 4.--Quantity of food used per person per week by food group, families eligible for USDA Food Programs, 10 surveys, 1961-67

Location and year of survey and Food Program available with percent participation (1)	Milk <u>1/</u> (calcium equiv.) (2)	Meat <u>2/</u> (3)	Vege- tables, fruit <u>3/</u> (4)	Bread, cereal <u>1/</u> (flour equiv.) (5)	Other food <u>5/</u> (6)
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
Detroit, Mich., 1961:					
Donation (56)-----	7.00	5.64	6.17	3.14	2.48
Stamp (27)-----	6.44	6.08	8.75	3.10	2.56
Fayette Co., Pa., 1961:					
Urban:					
Donation (30)-----	8.66	4.17	7.36	2.72	2.62
Stamp (18)-----	8.23	3.69	8.30	2.62	2.35
Rural:					
Donation (58)-----	9.43	4.79	8.41	4.00	3.21
Stamp (35)-----	7.61	4.15	10.21	3.39	3.14
Choctaw Co., Okla., 1962,					
Donation (78)-----	11.36	4.78	7.89	4.17	2.77
Escambia Co., Fla., 1963,					
Donation (59)-----	5.43	4.52	4.58	3.16	1.76
Sunflower Co., Miss., 1967,					
Donation (77)-----	6.84	3.91	3.57	4.26	2.50
Washington Co., Miss., 1967,					
Stamp (40)-----	4.22	4.49	3.52	3.46	1.85

1/ Includes milk, cream, cheese, and ice cream and other frozen milk desserts.

2/ Meat group includes, meat, poultry, fish, eggs, dry beans, dry peas, nuts, and mixtures mostly meat.

3/ Vegetables and fruit group includes all vegetables and fruits and their juices.

4/ Bread and cereal group includes flour, flour mixes, cereal, pastes, bread and bakery products.

5/ Other food includes fats and oils, sugar and sweets, and miscellaneous foods.

Table 5.--Meat group: Quantity used per person, per week, families eligible for USDA Food Programs, 10 surveys, 1961-67

Location and year of survey and Food Program available with percent participation (1)	Total (2)	Meat, poul- try, fish (3)	Bacon, salt pork (4)	Eggs (5)	Dry legumes (6)	Nuts (7)	Mix- tures, soups, mostly meat (8)
		Lbs. (2)	Lbs. (3)	Lbs. (4)	Lbs. (5)	Lbs. (6)	Lbs. (8)
Detroit, Mich., 1961:							
Donation (56)-----	5.64	3.91	0.43	0.78	0.31	0.14	0.07
Stamp (27)-----	6.08	4.51	.41	.64	.31	.11	.11
Fayette Co., Pa., 1961:							
Urban:							
Donation (30)-----	4.17	2.83	.19	.70	.23	.08	.14
Stamp (18)-----	3.69	2.59	.18	.61	.15	.05	.11
Rural:							
Donation (58)-----	4.79	2.97	.21	.96	.44	.08	.12
Stamp (35)-----	4.15	2.83	.22	.62	.31	.09	.09
Choctaw Co., Okla., 1962,							
Donation (78)-----	4.78	2.76	.51	.77	.50	.14	.10
Escambia Co., Fla., 1963,							
Donation (59)-----	4.52	3.06	.34	.49	.40	.14	.08
Sunflower Co., Miss., 1967,							
Donation (77)-----	3.91	2.69	.30	.33	.45	.13	.01
Washington Co., Miss., 1967,							
Stamp (40)-----	4.49	3.12	.36	.43	.52	.03	.04

Table 6.--Money value of food obtained without direct expense, families eligible for USDA Food Programs, 10 surveys, 1961-67

Location and year of survey and Food Program available with percent participation (1)	Money value per person in a week for--			
	Total (2)	Home produced	Gift or pay	Federally donated
		Dol. (3)	Dol. (4)	Dol. (5)
Detroit, Mich., 1961:				
Donation (56)-----	0.54	0.02	0.07	0.44
Stamp (27)-----	.19	.06	.14	--
Fayette Co., Pa., 1961:				
Urban:				
Donation (30)-----	.41	.05	.12	.24
Stamp (18)-----	.31	.13	.18	--
Rural:				
Donation (58)-----	1.08	.32	.09	.67
Stamp (35)-----	.57	.38	.19	--
Choctaw Co., Okla., 1962,				
Donation (78)-----	2.09	.93	.16	1.00
Escambia Co., Fla., 1963,				
Donation (59)-----	.39	.05	.07	.28
Sunflower Co., Miss., 1967,				
Donation (77)-----	1.40	.39	.06	.95
Washington Co., Miss., 1967,				
Stamp (40)-----	.37	.19	.09	.09

Table 7.--Division of food dollar, families eligible for USDA Food Programs, 10 surveys, 1961-67

Location and year of survey and Food Program available with percent participation (1)	All food (2)	Milk 1/ (3)	Meat 2/ (4)	Veg- tables, fruit 3/ (5)	Bread, cereal 4/ (6)	Other food 5/ (7)
	Pct. (2)	Pct. (3)	Pct. (4)	Pct. (5)	Pct. (6)	Pct. (7)
Detroit, Mich., 1961:						
Donation (56)-----	100	11.6	43.5	16.1	13.4	15.3
Stamp (27)-----	100	12.2	44.2	16.6	13.2	13.8
Fayette Co., Pa., 1961:						
Urban:						
Donation (30)-----	100	16.2	35.8	17.5	13.4	17.2
Stamp (18)-----	100	17.5	35.5	17.4	15.0	14.6
Rural:						
Donation (58)-----	100	13.9	36.1	17.3	14.8	17.8
Stamp (35)-----	100	15.2	33.4	18.5	16.3	16.5
Choctaw Co., Okla., 1962,						
Donation (78)-----	100	17.3	36.0	16.5	13.2	17.1
Escambia Co., Fla., 1963,						
Donation (59)-----	100	10.3	44.2	14.8	15.2	15.5
Sunflower Co., Miss., 1967,						
Donation (77)-----	100	10.5	40.0	13.4	17.2	18.8
Washington Co., Miss., 1967,						
Stamp (40)-----	100	10.3	44.0	13.8	15.6	16.4

1/ Includes milk, cream, cheese, and ice cream and other frozen milk desserts.

2/ Meat group includes meat, poultry, fish, eggs, dry beans, dry peas, nuts, and mixtures, mostly meat.

3/ Vegetables and fruit group includes all vegetables and fruits and their juices.

4/ Bread and cereal group includes flour, flour mixes, cereal, pastes, bread and bakery products.

5/ Other food includes fats and oils, sugar and sweets, and miscellaneous foods.

Table 8.--Household diets meeting Recommended Dietary Allowances (1958), for all 8 nutrients and each nutrient separately, families eligible for USDA Food Programs, 10 surveys, 1961-67

Location and year of survey and Food Program available with percent participation (1)	Meeting RDA for all 8 nutrients (2)		Household diets meeting RDA for--						Ascorbic acid (10)			
			Protein (3)		Calcium (4)		Iron (5)		Vitamin A value (6)	Thia-mine (7)	Ribo-flavin (8)	Niacin (9)
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	
Detroit, Mich., 1961:												
Donation (56)-----	28	88	44	83	75	75	73	90	90	50	50	
Stamp (27)-----	35	85	43	84	76	72	70	88	88	57	57	
Fayette Co., Pa., 1961:												
Urban:												
Donation (30)-----	25	84	56	73	62	62	71	78	78	42	42	
Stamp (18)-----	28	75	46	67	69	58	59	73	73	56	56	
Rural:												
Donation (58)-----	28	88	55	91	68	84	79	90	90	45	45	
Stamp (35)-----	31	81	46	80	70	71	67	83	83	60	60	
Choctaw Co., Okla., 1962,												
Donation (78)-----	41	88	69	89	76	85	82	88	88	47	47	
Escambia Co., Fla., 1963,												
Donation (59)-----	20	69	37	76	73	63	55	83	83	37	37	
Sunflower Co., Miss., 1967,												
Donation (77)-----	20	78	50	88	47	75	61	84	84	31	31	
Washington Co., Miss., 1967,												
Stamp (40)-----	17	79	40	79	57	64	47	80	80	36	36	

Table 9.—Household diets providing less than two-thirds Recommended Dietary Allowances (1958), in any one of 8 nutrients and of each nutrient separately, families eligible for USDA Food Programs, 10 surveys, 1961-67

Location and year of survey and Food Program available with percent participation (1)	Providing less than $\frac{2}{3}$'s RDA in any one nutrient (2)	Households providing less than two-thirds RDA in--								
		Protein	Calcium	Iron	Vitamin A value	Thiamine	Riboflavin	Niacin	Ascorbic acid	(9)
	(3)	(4)	(5)	(6)	(7)	(8)	(8)	(8)	(9)	
Detroit, Mich., 1961:										
Donation (56)	39	2	23	4	16	6	9	2	26	
Stamp (27)	42	5	28	5	15	9	12	4	28	
Fayette Co., Pa., 1961:										
Urban:										
Donation (30)	46	5	17	8	22	10	11	7	35	
Stamp (18)	41	4	22	10	18	11	13	9	24	
Rural:										
Donation (58)	43	3	16	2	16	3	5	2	28	
Stamp (35)	36	4	23	5	17	7	9	4	19	
Choctaw Co., Okla., 1962,										
Donation (78)	37	3	11	2	13	3	6	3	32	
Escambia Co., Fla., 1963,										
Donation (59)	57	7	36	8	17	11	18	5	44	
Sunflower Co., Miss., 1967,										
Donation (77)	61	3	29	3	33	7	17	4	50	
Washington Co., Miss., 1967,										
Stamp (40)	59	5	36	6	30	12	27	7	45	

Table 10.--Nutritive value of diets per person per day, families eligible for USDA Food Programs, 10 surveys, 1961-67

Location and year of survey and Food Program available with percent participation (1)	Food energy (2)	Protein (3)	Calcium (4)	Iron (5)	Vitamin A value (6)	Thiamine (7)	Ribo- flavin (8)	Niacin (9)	Ascorbic acid (10)	<u>Mg.</u> (10)
Detroit, Mich., 1961:										
Donation (56)	2,900	95	890	17	8,300	1.56	2.04	20	71	
Stamp (27)	3,080	100	870	18	9,500	1.65	2.05	21	78	
Fayette Co., Pa., 1961:										
Urban:										
Donation (30)	2,810	90	970	15	7,200	1.46	2.02	17	67	
Stamp (18)	2,630	84	920	14	6,900	1.36	1.90	16	78	
Rural:										
Donation (58)	3,460	107	1,080	20	7,100	1.99	2.46	21	75	
Stamp (35)	3,150	94	910	17	6,900	1.66	2.06	19	90	
Choctaw Co., Okla., 1962,										
Donation (78)	3,550	105	1,295	20	10,300	1.93	2.59	20	76	
Escambia Co., Fla., 1963,										
Donation (59)	2,460	78	805	14	8,900	1.29	1.67	17	54	
Sunflower Co., Miss., 1967,										
Donation (77)	2,830	82	975	18	4,300	1.48	1.82	18	46	
Washington Co., Miss., 1967,										
Stamp (40)	2,490	75	785	16	4,900	1.32	1.45	16	49	

Table 11.--Contribution of food groups to protein, families eligible for USDA Food Programs, 10 surveys, 1961-67

Food group	Detroit		Fayette County				Choctaw County		Escambia County		Sunflower County		Washington County	
	Donation		Stamp		Urban		Rural		Donation		Stamp		Stamp	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(11)	(11)	(11)	(11)
All food groups 1/	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Milk, cream, ice cream, cheese	17	15	23	24	21	20	24	24	16	18	12	12	12	12
Meat, poultry, fish	39	43	33	33	29	31	26	36	36	31	38	38	38	38
Eggs	6	5	6	5	6	5	5	5	5	5	3	4	4	4
Other protein foods	7	7	6	4	7	6	10	11	11	11	11	11	11	11
Dark-green and deep-yellow vegetables, sweetpotatoes	1	1	*	*	*	*	*	*	2	2	1	1	1	1
Other vegetables	4	4	5	5	5	5	4	4	3	3	2	2	2	2
Citrus fruit and tomatoes	1	1	1	2	1	1	2	1	*	*	*	*	*	*
Other fruits	*	*	*	*	*	*	*	*	*	*	1	1	1	1
Grain products	24	23	24	26	28	28	27	27	27	27	34	30	30	30
Fats and oils	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Sugar, sweets	*	*	*	*	*	*	*	*	*	*	0	0	0	0
Miscellaneous	*	*	*	*	*	*	*	*	*	*	*	*	*	*

1/ Percents may not add to 100 because of rounding.

*0.5 or less.

Table 12.--Nutrients furnished by a dollar's worth of food, families eligible for USDA Food Programs, 10 surveys, 1961-67

Location and year of survey and Food Program available with percent participation (1)	A dollar's worth of food provided--				
	Food energy (2)	Protein (3)	Calcium (4)	Vitamin A value (5)	Ascorbic acid (6)
	Cal. -----	G. -----	Mg. -----	I.U. -----	Mg. -----
Detroit, Mich., 1961:					
Donation (56)-----	3,870	127	1,200	11,100	95
Stamp (27)-----	3,710	120	1,050	11,400	94
Fayette Co., Pa., 1961:					
Urban:					
Donation (30)-----	3,270	105	1,100	8,400	78
Stamp (18)-----	3,290	105	1,150	8,600	98
Rural:					
Donation (58)-----	4,170	129	1,300	8,600	90
Stamp (35)-----	3,940	118	1,150	8,600	112
Choctaw Co., Okla., 1962,					
Donation (78)-----	4,440	131	1,600	12,900	95
Escambia Co., Fla., 1963,					
Donation (59)-----	4,640	147	1,500	16,800	102
Sunflower Co., Miss., 1967,					
Donation (77)-----	5,050	146	1,750	7,700	82
Washington Co., Miss., 1967,					
Stamp (40)-----	4,370	132	1,400	8,600	86

Table 13.--Contribution of food groups to calcium, families eligible for USDA Food Programs, 10 surveys, 1961-67

Food group	Detroit		Tayette County			Escambia County			Sunflower County		Washington County	
	Donation	Stamp	Urban		Rural	Choctaw County		Sunflower County		Washington County		
			Donation	Stamp	Donation	Stamp	Donation	Stamp	Donation	Stamp	Donation	Stamp
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
All food groups ^{1/} -----	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Milk, cream, ice cream	100	100	100	100	100	100	100	100	100	100	100	100
cheese-----	60	56	68	68	67	64	67	52	54	41	3	3
Meat, poultry, fish-----	4	5	2	2	2	3	2	3	3	1	2	2
Eggs-----	3	2	2	2	3	2	2	2	2	1	5	6
Other protein foods-----	4	4	2	2	4	3	5	5	5	5	5	5
Dark-green and deep yellow vegetables, sweetpotatoes	7	7	2	1	2	1	6	11	6	6	8	8
Other vegetables-----	5	6	5	4	5	5	4	4	4	2	3	3
Citrus fruit and tomatoes-----	1	1	1	1	1	1	1	1	1	*	1	1
Other fruits-----	1	1	1	1	1	1	1	1	1	*	1	1
Grain products-----	14	16	14	15	14	15	17	12	21	22	32	32
Fats and oils-----	1	1	1	1	1	1	1	1	1	*	1	1
Sugar, sweets-----	1	*	1	*	1	*	1	2	1	5	2	2
Miscellaneous-----	*	*	*	*	*	*	*	*	*	0	0	0

^{1/} Percent may not add to 100 because of rounding

*0.5 or less.

Table 14.--Contribution of food groups to vitamin A value, families eligible for USDA Food Programs,
10 surveys, 1961-67

Food group	Detroit		Fayette County			Choctaw County		Escambia County		Sunflower County		Washington County	
	Donation	Stamp	Urban		Rural	Donation	Stamp	Donation		Donation	(10)	(11)	Stamp
			(3)	(4)	(5)			(6)	(7)				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)			
All food groups 1/	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Milk, cream, ice cream, cheese	100	100	100	100	100	100	100	100	100	100	100	100	100
Meat, poultry, fish	7	8	15	15	13	14	8	4	8	6	6	8	8
Eggs	26	25	20	17	13	12	8	18	18	18	18	18	18
Other protein foods	6	4	6	6	9	6	5	5	5	5	5	5	5
Dark-green and deep-yellow vegetables, sweetpotatoes	*	*	1	*	1	1	*	*	*	*	*	*	*
Other vegetables	41	38	26	20	25	17	60	60	60	60	60	60	60
Citrus fruit and tomatoes	3	4	4	4	5	5	4	2	2	2	2	2	2
Other fruits	4	7	10	18	12	23	3	3	3	3	3	3	3
Grain products	2	5	3	5	3	6	2	2	2	2	2	2	2
Fats and oils	1	*	1	1	1	1	2	2	2	2	2	2	2
Sugar, sweets	9	8	15	13	18	15	8	8	8	8	8	8	8
Miscellaneous	*	*	*	*	*	*	*	*	*	*	0	0	0
	--	--	--	--	--	--	--	--	--	--	0	0	0

1/ Percents may not add to 100 because of rounding

*0.5 or less.

Dashes denote lack of reliable data.

Table 15.--Contribution of food groups to ascorbic acid, families eligible for USDA Food Programs, 10 surveys, 1961-67

Food group	Detroit		Fayette County				Choctaw County		Escambia County		Sunflower County		Washington County	
	Donation		Stamp		Urban		Rural		Donation		Stamp		Donation	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	Stamp	(11)		
All food groups 1/-----	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Milk, cream, ice cream, cheese-----	6	5	9	8	8	5	9	5	9	5	7	5	7	5
Meat, poultry, fish-----	2	2	1	1	1	1	1	1	1	2	*	1	*	1
Eggs-----	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other protein foods-----	1	1	1	*	1	1	1	1	1	1	1	1	1	1
Dark-green and deep-yellow vegetables, sweetpotatoes-----	25	23	9	14	8	11	31	31	45	35	22	22	21	33
Other vegetables-----	29	30	37	29	37	30	34	34	23	23	22	22	21	31
Citrus fruit and tomatoes-----	32	30	36	40	36	43	18	18	20	20	10	10	7	7
Other fruits-----	5	9	7	8	6	7	5	5	3	*	0	0	0	0
Grain products-----	*	*	*	*	*	*	*	*	0	0	0	0	0	0
Fats and oils-----	--	--	--	--	--	--	--	--	0	*	3	3	2	2
Sugar, sweets-----	1	1	1	1	2	2	1	1	0	0	0	0	0	0
Miscellaneous-----	--	--	--	--	--	--	--	--	--	--	--	--	--	--

1/ Percents may not add to 100 because of rounding.

*0.5 or less.

Dashes denote lack of reliable data.



UNITED STATES DEPARTMENT OF AGRICULTURE
Consumer and Marketing Service

NEW DEVELOPMENTS IN U.S.D.A. FOOD PROGRAMS

Talk by Howard P. Davis
Deputy Administrator, Consumer Food Programs
at the 46th National Agricultural Outlook Conference
Washington, D. C., 11:30 A.M., Wednesday, February 19, 1969

For the past several years starvation, hunger and malnutrition have been very much in the news and are weighing heavily on our national conscience. We in the Department have been very much concerned about hunger and malnutrition for some years and have been trying in every way we knew to meet this problem and do something about it. We are hopeful that with increased public awareness and concern we can make more rapid progress. We have made considerable progress in the past several years but much remains to be done.

In the process of the general awakening of concern there have been many misconceptions of the problems and a lack of understanding of what is involved in meeting these problems. There has been almost complete absorption in making a national issue of hunger and malnutrition with very little attention to possible workable solutions. In the first place, within the popular meaning of the term starvation, I am sure we would all agree that there are very, very few isolated instances. While there is hunger of the gnawing conscious kind -- the craving for food -- here again we do not know the extent with any exactness. There are not millions and millions of people suffering from this kind of acute hunger. There are millions, however, who are suffering from chronic hunger; millions who year in and year out do not get enough to eat -- but far more important -- do not get the right kinds of food. Traditionally, due to poverty, they have learned to live very, very low on the hog.

And, of course, the overriding problem and the very, very serious problem is the extent of malnutrition among the poor. There are many causes of malnutrition -- ignorance of the need for or what constitutes an adequate diet, miserable housing and sanitation that lead to parasitic infestation as well as those factors that can only be determined clinically and that may occur in people at all economic levels. But there are many, many people in this land of plenty who are suffering from malnutrition because they have been unable to afford the right kinds of food.

Although I am sure this group is very knowledgeable in regard to our food assistance programs, let me take just a minute to review these programs and their structure for you. First, let me say that our food assistance programs, particularly the family assistance programs, are perhaps most effective in meeting the need of continuing hunger -- insuring that poor families have enough to eat. The problem of insuring that in getting enough to eat these families at the same time know enough to want a varied nutritious diet and are able to buy it and prepare it is another matter.

We have two basic programs to insure families enough food to prepare and eat in their homes -- the Commodity Distribution Program and the Food Stamp Program. In addition, we have been working for some months on a program to provide special supplementary foods for pregnant and nursing mothers and small children based on medical determinations. The other major group of programs is designed to provide nutritious meals in group situations to children, both in school and out of school.

First, of course, is the National School Lunch Program which has been in operation formally since 1946. More recently under the Child Nutrition Act of 1966 we have provided Federal assistance for breakfast programs in schools. And then just in this past session of Congress legislation was passed providing for Federal assistance to feeding programs in non school situations such as child care centers, settlement houses, etc. for young children and group feeding programs during the summer months for all children high school grade and under.

The National School Lunch Program is designed to improve the nutrition of all children regardless of their family's income. This program is designed to not only provide at least one-third of the child's daily requirements of the basic nutrients but teach the children good nutrition through becoming accustomed to eating well-balanced meals and through tying the lunch program into formal nutrition education in the school.

While the School Lunch Act itself requires that lunches be served free or at reduced price to those children who cannot afford to pay, we have been becoming increasingly concerned over the years that in fact there were millions of poor children who were not participating in the program. We have obtained amendments to the Act to help correct this and the newer programs under the Child Nutrition Act and the provision for group feeding in non school situations have been aimed toward reaching the poor children.

The Federal Government prescribes meal-type requirements for these programs that insure nutritionally adequate meals. We provide technical assistance to the states and to the schools in many forms and more directly, cash reimbursement for meals served, donated commodities, and this year for the first time substantial funds to assist the schools in obtaining necessary lunch room equipment. We also for the first time are providing some funds to strengthen the state educational agencies' administrative staffs.

The programs are operated primarily through agreements with State Agencies who are responsible for selecting the schools that participate in the program. The actual operation of the program is in the hands of local school boards who are responsible for determining which children qualify for a free lunch. Federal funds are apportioned among the states which in turn reimburse the local schools at the end of each month for the lunches served. The Federal assistance, cash and commodities, provide about one-fourth of the cost of the lunches; about one-fourth comes from state and local sources; and about one-half comes from those children who can afford to pay.

The Commodity Distribution Program is again operated through agreements with state agencies with the Federal Government buying the commodities, packaging them and delivering them in carload lots to points within the states. We also prescribe the general program regulations. States are responsible for ordering commodities and accounting for them and supervising the operation of the program in the local areas. The local government, usually the county, is responsible for determining eligibility and actually distributing the commodities and in most cases bear the total cost of this operation. The eligibility rules are determined by the states with our approval and must generally bear a direct relationship to the states public assistance standards in regard to maximum incomes.

The supplemental food program I mentioned earlier is designed to run through health facilities serving the poor and is based on medical determinations that the mothers and young children need supplemental foods.

The Food Stamp Program which has operated on a national scale since passage of the Act in 1964, is designed to reach the same group with essentially the same eligibility standards as Commodity Distribution. Under this program the Federal Government provides the coupons, including the full cost of the subsidy as well as about one-third of the local cost of administering the program. Again, this program is operated through agreements with state public welfare agencies who assume full responsibility for operation within the state. However, the Department assumes responsibility for authorizing and supervising the participating grocers.

With exception of the Federal matching of part of the cost of certification of non public assistance recipients, generally the local government must bear the cost and responsibility for the local operation of the program. As you know, under this program the families pay about what they would spend for food each month in the absence of the program and receive food coupons or stamps that are worth considerably more than they pay. On a national average of all incomes and family sizes they pay on the ratio of about \$6 for \$10 worth of coupons.

Now, what have we done lately? What progress are we making?

At the present time the Commodity Distribution Program is operating in 1,288 counties, including some independent cities, serving 3.7 million persons. Last June the program was operating in 1,249 counties and was serving 3.2 million persons. This is a net figure since during this period many counties have switched from Commodity Distribution to Food Stamp. Under the law we cannot operate both programs in the same county.

We now have available for distribution about 22 commodities. If these commodities were all distributed every month and the families actually consumed these commodities in the amounts authorized they would provide essentially 100 percent of the daily allowances of essential nutrients prescribed by the National Research Council. In some nutrients they would provide well over these allowances. For example, protein. However, they are slightly short on calories and vitamins A and C.

Under the supplemental program for expectant mothers and children we have made available several commodities: evaporated milk, corn syrup, iron fortified farina, fruit juice, and additional canned meat and poultry. We now have 71 projects in operation and we hope by the end of the year to be reaching 225,000 mothers and children.

At the present time there are 1,232 Food Stamp Project Areas in operation with 2.7 million persons participating. Last June, at the end of the fiscal year, there were 1,027 projects, serving 2.4 million persons. We have made several program modifications to make the program more responsive to the needs of the people it is designed to serve. A little over a year ago we reduced the minimum purchase requirements for families in the very lowest income group from \$2.00 a person a month to \$.50 a person a month up to a maximum of \$3.00 for a family of 6 or more. We also provided for selling the coupons at one-half the regular purchase price for new participants during their first month of participation. This was designed to help them adjust their spending patterns.

In almost all the project areas the families may buy their monthly quota of stamps in two semi-monthly installments. There are quite a few areas that provide even weekly purchases. Where the families receive their income in a monthly check, as public assistance or pensions, they are encouraged to purchase once a month when they get their checks.

Just this month many states are implementing a program modification which we authorized some time ago which reduces the purchase requirement and increases the total amount of coupons received for families with incomes of less than \$70 a month. We had proposed further modifications in the purchase price at all levels with some

increase in total coupons received but were unable to secure the necessary appropriations this year to make this possible.

Largely as a result of the increased public concern for the nutrition of children from low income families we were able to secure substantially increased appropriations for the child feeding programs for this current year. In the past few years the local communities have been able to inaugurate the School Lunch Program in additional schools and are now operating in schools that represent about 80 percent of the total national average daily school attendance. Last year there were about 19 million children participating in the School Lunch Program with about 2.3 million of these children receiving their meals free or at reduced cost.

With our increased funds for this year we hope to extend the program into more schools and to be serving about 1 million more needy children lunches at free or reduced prices. At the same time the breakfast program has been growing from its beginning during the latter part of the 1966-67 school year and we hope by the end of this school year to be assisting in providing breakfast for over 200,000 children. A very high proportion of these breakfasts are free and the others served at very nominal cost -- 10 or 15 cents.

The non school feeding program has been somewhat slow in getting underway. However, it is too soon to tell how this program may develop since funds became available to the states only around the first of last December.

One of the most dramatic and important developments this year has been the provision of \$10 million transferred to the Extension Service for the purpose of hiring, training, and supervising a large number of program aids to work directly with poor families in the area of nutrition education, food buying and preparation. We are hopeful that this program can be greatly expanded next year. However, in the time allotted to me, I will not be able to go into the details of this program. It will have to be a separate paper.

While we are rather proud of the progress that has been made, many needs remain and the problems of meeting these needs are so great that we cannot waste time patting ourselves on the back.

Perhaps the greatest problem that we still have in spite of the current concern for hunger is the motivation of and securing support from the local communities. Regardless of the mechanism we may develop, in the last analysis progress or success of these programs in meeting the unmet need depends on the local community.

Second, as I mentioned before, the programs themselves can provide food for the hungry but our basic problem once raw hunger is met is one of eliminating malnutrition. Here is the area where the combined Federal, state, local and private voluntary resources must be marshalled to provide nutrition education and homemakers training in buying, preparing and serving nutritious meals. And, of course, we have a very

substantial problem in just making the programs available to those who need this assistance. We have somewhat less than 480 counties and independent cities left in the country which have no family food assistance program available in their area -- this after years of prodding, cajoling and even pressures.

During the last $1\frac{1}{2}$ years we have been able to get a food program in every one of the 1,000 lowest income counties. This has not been easy and has meant for some 180 counties we have supplied funds for local administration where local governments could not or would not finance a program. In 49 counties we had to go the last mile and go into these counties, in most cases over the active objection of local governments and run the program with Federal personnel and funds. Somehow we must convince the local authorities in these 480 areas that they should make these food assistance programs available to the poor in their communities.

Over the long haul there are some inherent constraints in the Commodity Distribution Program. The sheer logistics of buying in very large quantities, scheduling and shipping as many as 22 commodities to insure an adequate diet represents a major problem. Then making the commodities accessible to those who need them is a very difficult problem. How to finance and manage enough distribution points within a county so that the participant does not have to travel long distances and pay high transportation costs to get the commodities. And certainly even with 22 commodities the lack of variety, the inability to distribute fresh perishable commodities, and the inevitable unfamiliarity of many families with the commodities that can be distributed -- all these things affect the acceptability of the foods and full use by the participants.

The major problem under the Food Stamp Program in recent years has really been a refusal by many people to accept the basic premise of the program -- that is, the Food Stamp Program is a food program and carefully designed to increase the families' food purchasing ability. It therefore requires that the families continue to spend as much for food as they have been. The poor spend a very high percentage of their income for food and having spent this they do not have enough money for their other needs. The public feeling, at least that part of the public that has been vocal, has been that poor families should not have to spend that much for food and that the Food Stamp Program should be in large part an income supplement rather than merely subsidizing increased food purchasing power. There can be no real objection to this on moral grounds. It will be necessary, however, for the Congress to approve this sort of basic change in the program.

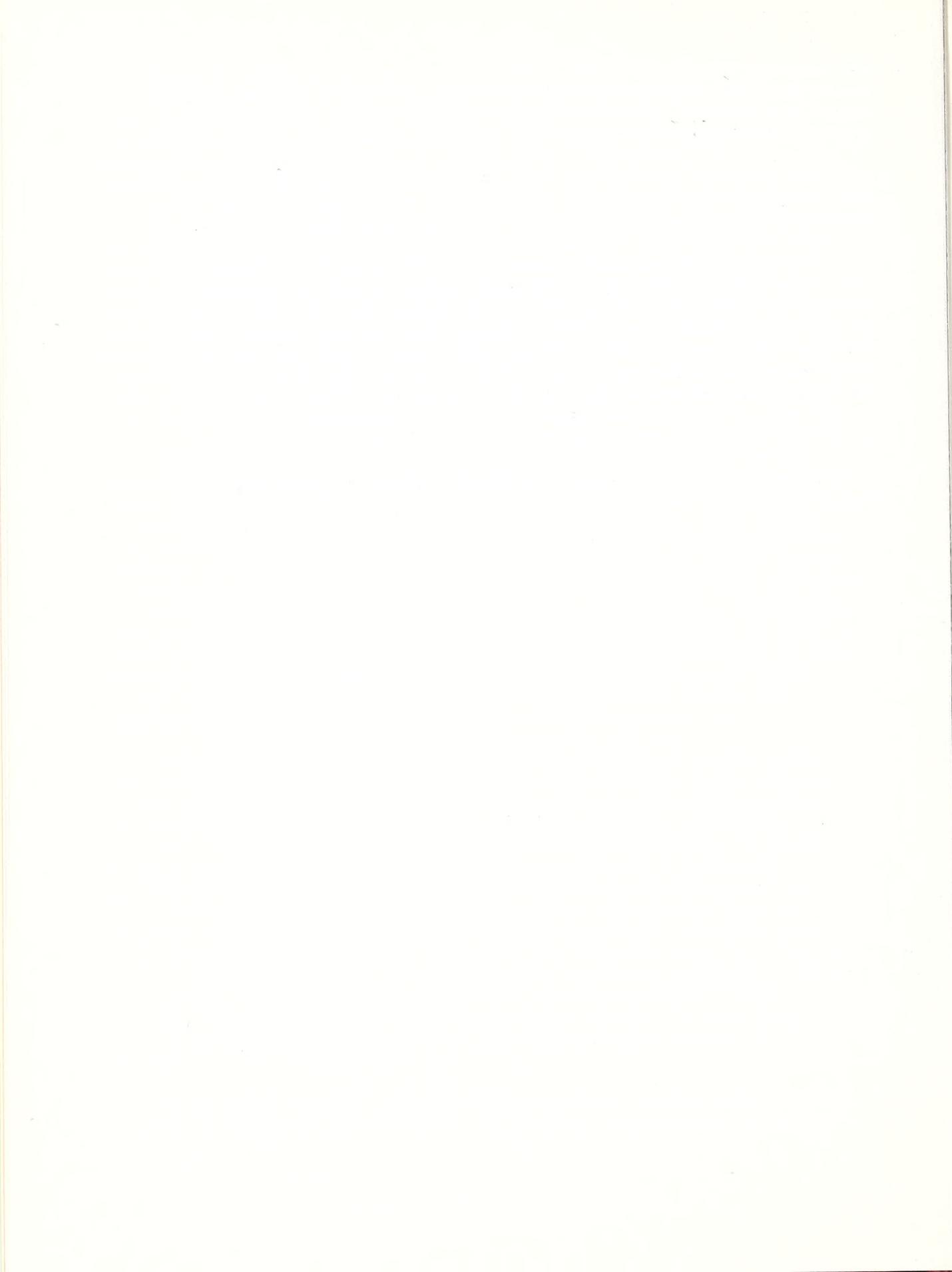
We do feel, however, that to insure greater participation in the program by the poor the reduction in purchase requirements which we

had proposed should be funded. We believe that our studies on which these purchase requirements are now based do tend to ignore the fact that there are many months when poor families spend considerably less for food when other needs for clothing, rent, etc., must be met.

Basically we believe the Food Stamp Program is sound and is the most effective way of getting more food to people who need it. The problem at this time is largely one of appropriations.

The major problem in the area of our child feeding programs is that of adequate funds and local cooperation in getting programs started in areas where they are not now available. In this connection by far the greatest unmet need is in the old, crowded schools of the downtown urban areas. Here arrangements must be made for central preparation and a minimum of preparation and service facilities in the individual schools. Here we are hoping the modern technology in the area of convenience foods and central commissaries developed by private industry can speed the process of meeting this need.

To sum up, what we need to eliminate hunger is money and local support.



THE FARM INDEX

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THE AGRICULTURAL OUTLOOK

World agricultural production in 1968 increased 2 to 3 percent from 1967. The rate of growth in both developed and less developed countries was about equal to the long term trend.

World output *per person*, however, was practically unchanged in 1968 as the increase in population about equaled the gain that was made in production.

Because of the difference in population growth, production per person has increased gradually in developed countries but has shown no gain in the less developed areas.

Grain production boosted. Grain production throughout the world has been expanded by about 20 percent in the past 3 years, following a very slow rate of growth during 1961-65. Wheat has been the largest gainer in 1968/69 as it was in 1966/67. But in 1967/68 rice led the advance in world grain production.

Where's the grain coming from? The bulk of the world's wheat is grown in the developed countries. Rice is a primary grain in the less developed areas.

Most of the *developed* wheat producing countries had record or near-record harvests in 1968/69.

The *less-developed* countries—especially Asia—had unusually large grain crops in 1967/68, primarily because of good weather.

In addition, high farm prices—pushed up by rice shortages in previous years—encouraged some increase in 1967/68 acreage and sharp increases in the use of fertilizer and new high-yielding wheat and rice varieties.

The big 1967/68 harvests brought temporary “self-sufficiency” to some Asian countries and even gave others an “exportable surplus.” But this, in turn, brought down prices to farmers.

Lower prices threatened to slow down adoption of the new high-yielding varieties which take

larger cash outlays for fertilizers and other inputs. Despite lower prices, most Asian countries expanded plantings of the new varieties to some extent in 1968/69. But weather wasn't particularly favorable in several Asian countries. So, impact of the new varieties was somewhat dampened. Grain output in those countries declined in 1968/69.

Shifts in trade patterns are complex. There's always been a certain amount of substitution of one commodity for another as the supply and demand picture changes.

In recent years, for example, abnormally large exports of wheat went to Asia to fill the rice gap.

Both this year and last, weather patterns and government policies have produced unusual changes in product substitution.

This complicates things for anyone trying to analyze and forecast levels of trade for many commodities—especially feed grains and oilseeds.

Animal rations are a factor. World demand for traditional feed grains continues but the 1969 ration for livestock and poultry has a slightly different look.

Because of wet weather, Western Europe and Canada harvested large volumes of lower quality wheat last year.

In Western Europe more of this wheat is being fed to livestock and poultry, and European exports of feed wheat are increasing.

Also, feed compounders in the European Economic Community (EEC) have been feeling the pinch of high feed grain costs—especially for imported grain which is subject to high variable levies.

Thus a variety of substitutes are cropping up in animal rations. These substitutes include such unorthodox components as sugar, cassava chips, and pulses.

Shortrun prospects for world trade—at least for commodities grown in temperate zone countries—are not too favorable.

In the developed countries demand is stagnant for most of the natural fibers, tobacco, dairy products, and sugar.

World supplies—including substitutes—of grains and oilseeds are large in relation to demand.

new math for farmers

Are we looking at returns from farm investment through the wrong end of the statistical telescope? Figures show why farmers fare well on moderate return.

In calculating rate of return on farm investment, today's farmer may find it worthwhile to take a leaf from his son's "new math" book.

Already, many successful farmers seem to be veering away from standard methods used to calculate returns and are using a new math of their own.

Critics of traditional accounting procedures say standard methods tend to underestimate rates of return on farm investment. As a result, farmers look like poor businessmen when they really aren't.

For example, as currently calculated, a 2.5-percent return on a \$500,000 farm investment, and a 2.39-percent return on a \$1.7 million farm investment are not uncommon.

If these low rates of return reflect the actual situation, then why do farmers continue to grow crops year after year? Are they bad financial managers? Don't they know that they could probably earn more with less risk by

investing their money elsewhere?

Actually, most farmers are about as astute on money matters as other businessmen. So in some cases at least, it might possibly be the way rates of return are calculated that makes things down on the farm look dim compared with other enterprises.

Using the same basic production and sales figures but giving modern farm financing techniques more weight in calculations, it is possible to show that the farmer with the 2.39-percent rate of return actually gets 11.44 percent. And the farmer with 2.35 percent gets 10.61 percent.

Thus, what may look like a marginal farm operation on paper is a real-life success.

This seeming paradox stems from three basic assumptions most often made in farm costs and returns studies:

—That land, buildings, equipment, and all resources are owned outright by the farm operator;

—That the farm operator has

100-percent equity in these resources, i.e., no mortgage or liens are outstanding; and,

—That the land is best represented at its current market value when returns are calculated.

Since few farmers these days own their land outright or have full equity in all their farm resources, these assumptions are regarded as unrealistic by some economists, and farmers as well.

Renting land is an approved, widespread practice in today's farm economy, and using credit to cover production and other costs is now common, too, among most U.S. farmers.

There are two ways of looking at land value. First, as it originally cost the buyer and second, as it would cost a potential new buyer. Current procedures generally use the second figure in tabulating costs and returns.

Businessmen, however, usually think in terms of what they originally invested rather than current market value of the land



THE NEW MATH, FARM STYLE

Costs and returns on a cattle ranch:	Full equity	Part equity
Dollars		
Investment:		
Land	1,528,837	550,381
Buildings, etc.	55,043	55,043
Machinery	8,491	8,491
Livestock	128,980	128,980
Total investment	1,721,351	742,895
Livestock income (cash)	81,554	81,554
Land Value increase (noncash)	—	61,153
Total income ¹	81,554	142,707
Cash costs: ²		
Operating	28,961	28,961
Interest (mortgage)	—	18,346
Total cash costs	28,961	47,307
Noncash costs:		
Depreciation	5,413	5,413
Operator and family labor	5,000	5,000
Interest on operating costs	1,014	1,014
Interest on investment	—	37,145
Total noncash costs	11,427	48,572
Net cash income ³	52,593	34,247
Net ranch income	⁴ 46,166	⁵ 46,826
Return to capital and management	⁶ 41,166	84,987
Rate of return on investment ⁷	2.39 percent	11.44 percent

¹ Income at 1956-1965 average prices. ² Prices at 1965 levels. ³ Gross income less cash costs.

⁴ Net cash income less noncash costs. ⁵ Net cash income less noncash costs plus noncash income.

⁶ Net ranch income less a charge for operator and family labor. ⁷ Return to capital and management as a percentage of total investment.

when figuring profits. And so do many farmers.

Thus, arbitrarily assume 60-percent equity instead of 100-percent equity; and instead of including the cost of land at current market value, figure it in at the price the farmer originally paid for it.

(In actual calculations a national average percent of equity can be determined and used in place of 60 percent.)

The results show what the successful farmer has known all along—that farming can be as competitive as any other business when it comes to financial returns.

It all depends on what method the farmer or his accountant uses when it comes time to calculate those returns. (1)

Treasure State Enriches Its Soils Faster Than Whole U.S. Since '50

Plant diets in Montana are getting better every year.

Up until 1950, fertilizer use in the Treasure State lagged far behind that of the rest of the Nation. But the gap is starting to narrow, as usage has skyrocketed in recent years.

Use of nitrogen, phosphorus, and potassium in Montana has gained far faster than for the Nation as a whole since 1950. Tonnage of these plant nutrients increased by 12 times, 8½ times, and 18 times, respectively, during the 1950-67 period.

Greater use of nitrogen on small grain crops (wheat and

barley) and on irrigated grass meadow is, in large part, the cause of nitrogen's rapid increase in Montana.

Most of the phosphorus tonnage is used on sugarbeets, legume hay, and wheat, while potassium is applied mainly on irrigated sugarbeets and potatoes.

Rates of fertilizer application in Montana are still considerably, below the U.S. average on wheat, barley, oats, corn, dry beans, vegetables, and potatoes. This is because a large percentage of these crops are produced under much drier conditions than exist elsewhere in the Nation. (2)

To Sweeten Salty Wells, Coast Farmers Must Push Back the Sea

Artichoke country: Where the soil is rich and black. Where the climate is moderate all year 'round. And where plenty of water is waiting in underground pools to irrigate the fields.

That's the coastal area of Salinas Valley, Calif.—except where salty seawater has seeped in to contaminate irrigation wells.

In the late 1930's and early 1940's salt water from the sea began appearing in the irrigation wells of farmers growing artichokes and other vegetables along the Salinas Valley seacoast.

Since that time underground seawater intrusion has advanced farther and farther inland.

At present, contaminated water underlies about 8,000 acres of valuable vegetable producing land. A 1945 estimate of the average annual inflow of salt water was 6,000 acre-feet. By 1954 that estimate was up to 20,000 acre-feet.

Tests have shown that the chloride content in a well can jump from the normal 100 parts per million to over 1,000 parts per million in a single season.

Two dams constructed on the Salinas River now provide substitute irrigation water for many inland farmers, thus helping to keep the underground fresh water level high. No encroachment of seawater into the underground pools farther inland was noted in the 1965/66 water year.

Use of irrigation water in the Salinas Valley was estimated at 139,240 acre-feet in 1963.

The farmer, singlehandedly, can't do much about preventing salt water contamination of his irrigation well. His only alternatives are to:

- Drill a deeper well in hopes of finding a layer of fresh water farther down;
- Secure irrigation water from another source; or
- Quit producing crops that require irrigation.

Community action is probably the best bet in combating sea water intrusion. Farmers in the Salinas Valley could request a court order limiting water pumping in crucial areas so as to maintain the underground fresh water level high enough to repulse the salt water. The cost of the legal fight necessary to bring this about might be prohibitive, however.

Other tactics—though they would be costly—would be: (1) Sink a series of wells in the coastline to pump out contaminated underground water and thus draw fresh water in, or (2) Sink a series of injection wells inland for the purpose of pumping fresh water into the underground pools, forcing the salt water out.

Perhaps the best of all possible solutions would be to build a surface canal from the two storage dams on the Salinas River to the contaminated area and to areas of possible future contamination. Preliminary designs show such a canal is feasible and that it could provide water to farm head gates at a cost of about \$8.00 per acre-foot. (3)



Men and Milestones

"HIDDEN HUNGER" FIGHTER

America is in the midst of the Great Depression. What kinds of foods are the fare of farm families in the drought-stricken Dust Bowl and other areas? Louise Stanley, Chief of USDA's Bureau of Home Economics, dispatches researchers. They do their fact-finding job so well that it becomes possible for the first time to estimate the quantities and kinds of food needed to provide all Americans with adequate diets.

* * *

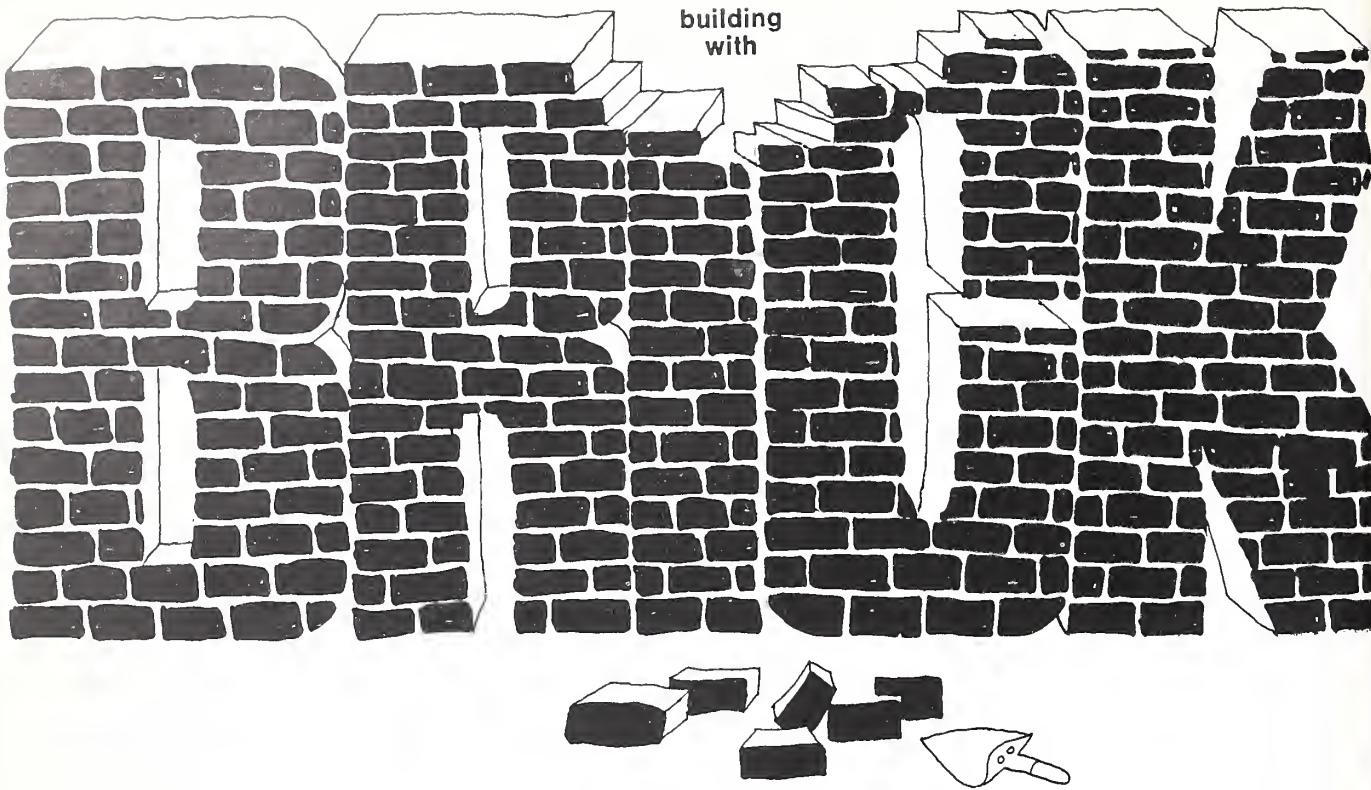
In conducting her nutrition studies in the late 1920's and early 1930's Louise Stanley expected to find inadequate diets among low-income families. But she was appalled to learn that even among families with average or better incomes there existed a "hidden hunger," a lack of certain basic food elements in the diet.

Under her direction, the Bureau conducted further re-

search on food consumption and dietary levels and became widely known for the balanced-diet food budgets it worked out for families of various income levels.

What the people of the United States ate was the primary concern of the Bureau of Home Economics when it was established in 1923 by Agriculture Secretary Henry C. Wallace and Miss Stanley was appointed its first chief. But the Bureau's scope of interest was quickly broadened by Miss Stanley to include pioneering studies that helped determine basic U.S. needs for clothing and housing, too.

Later, in 1943, as Special Assistant to the Administrator of the USDA's Agricultural Research Administration, she also worked to improve the nutritional value of diets in many foreign countries as well as her own. People are better fed, better clothed, and better housed today because of Louise Stanley. (4)



When a modern brick plant came to town, it laid a new foundation for the economy of a rural area in the South that was hit hard by a lack of jobs in agriculture.

Driving through the South Carolina countryside to Charleston, a casual observer might pass by the smokestacks of the Summerville brick factory without realizing they were symbols of progress. But they are—particularly for unskilled workers in the area.

Summerville (population 3,633 in 1960) is the biggest town in Dorchester County, S. C. Apart from Summerville, the county is highly rural—and residents have been plagued by unemployment and low incomes as jobs in agriculture and lumbering have dwindled.

Many of the county's residents commute to jobs in the Charles-

ton area, about 20 miles from Summerville. But the unskilled, poorly educated workers had a hard time finding jobs anywhere—until the factory opened.

The story of the Summerville brick factory is a story of community action.

Dorchester County organized a Rural Area Development (RAD) Committee in May 1961. The committee's major function was to find a way to stimulate the lagging local economy—hopefully by securing a new industry. At that time, the committee didn't have brickmaking in mind.

But a private businessman in the area did. Having scouted out the local resources and the potential market for bricks in the county and nearby Charleston, he thought a brick factory would be a profitable enterprise. However, he was turned down when he applied for a bank loan. In the process of finding out whether he

might qualify for Federal or State assistance, he learned about his county's RAD committee.

The brick factory seemed feasible to the county committee—and to the Area Redevelopment Administration, which approved a loan of \$170,000. The businessman himself put up \$78,000. Summerville Industries (a group organized to help establish local industries) bought \$26,000 worth of stock, and private sources provided another \$35,000 for working capital.

The brick plant was constructed in early 1963 and its first kiln of brick run in July of that year. By late August, production was about 36,000 bricks per day—40 percent more than the expected rate in the original plan upon which the loan was based. The very modern plant uses a continuous tunnel kiln which reduces brick handling.

At the outset, the factory em-

ployed 22 workers; it added three more during its first year. But more important than these numbers was the fact that the plant provided jobs for the group of workers most lacking in employment opportunities.

Of the 17 production workers the plant employed originally, all were men, 15 were nonwhite, and 12 of these 15 were between the ages of 20 and 34.

Few had any previous experience in the brick business, although 10 of the workers had held seasonal jobs in agriculture, sawmills, or construction. Previous earnings of these employees ranged between 75 cents and \$1 an hour. The \$1.15 per hour wage paid by the brick factory represented a substantial income improvement for these workers.

Very few of the production workers lived in Summerville itself. Most came from rural areas in Dorchester County or elsewhere.

The brick factory stimulated the county's economy in several ways. An estimated five new jobs were created for people in local businesses which supplied the factory with its raw materials, office equipment, and so forth.

When these five people—and the 25 employed in the brick factory—went to spend their pay, they generated jobs for another four workers in consumer-oriented industries such as grocery stores, apparel shops, and movie houses.

Three years after its opening, the Summerville brick factory merged with a national firm that produced ceramic tooling for industry. The national firm was in need of additional tunnel kiln capacity which the brick factory could provide without materially affecting its own output.

The merger meant another expansion in employment, as well as an upgrading in the technical skills of the labor force. At the same time, it lessened the brick factory's dependence on the con-

struction industry, notorious for its cyclical swings.

As of March 1968, the Summerville brick factory had 40 workers and an annual payroll of approximately \$160,000. During its first 5 years of operation, it disbursed nearly \$750,000 in payrolls and purchased almost a million dollars of supplies and services, mostly through local distributors. It paid off its original Area Redevelopment Administration loan in full in November 1967.

Bricks have laid a good foundation for rebuilding Dorchester County's economy. They've proved the worth of local labor and resources—which should make the area a more attractive site for other new industries. (5)

Learn More, Earn More, Appears To Be a Rule in Today's Farming

"It's on-the-job experience, not formal education, that teaches a boy to farm."

Maybe this was true 50 years ago, but today schooling and successful farming go hand in hand. Every year of education is associated with higher earning capacity of U.S. farmers. (Of course, it doesn't always follow that higher education is paired with higher earnings, but the association of the two is striking.)

Evidence of this is offered by the following comparison of farm operators' sales and educations at the time of the last census of agriculture.

Of the 2.2 million farm operators studied, roughly 130,000 had completed fewer than 5 years of elementary school. Nearly two-thirds of this group had farm-product sales of less than \$5,000 in 1964. Virtually none sold \$20,000 or more.

Their counterparts with 5 to 8 years of elementary education were in a somewhat better posi-

tion. Only two-fifths of this group, which totaled 890,000, sold less than \$5,000 worth of farm products and about a tenth sold over \$20,000.

Some 930,000 farm operators went on as far as high school, though 370,000 of these didn't finish all 4 years. Even without a diploma, though, their sales positions were noticeably better than those of farmers with only elementary educations.

Of the group with 1 to 3 years of high school, only a third had sales of less than \$5,000. Eighteen percent sold \$20,000 or more.

The 560,000 operators who earned high school diplomas improved their sales positions even more. Fewer than a fourth were in the under-\$5,000 group, while 27 percent had sales of \$20,000 or more.

College attendance carried the biggest rewards of all—though it was no guarantee of success. About a fourth of the 220,000 operators with college backgrounds sold less than \$5,000 worth of farm products. This was about the same proportion as for operators with high school diplomas. But a significantly higher percentage of the college men—a third—sold over \$20,000 (6)

Garden Plots Don't Thicken

Determining poverty levels isn't easy.

One widely used poverty index assumes farm families produce 30 percent of their food. Most farm families, however, don't count that much on homegrown food for their weekly fare.

The value of food produced for home use by the average farm household was only \$2.45 per person per week in 1964. (This includes all foods—raised, obtained by hunting or fishing, or gathered from the wild.)

Moreover, 40 percent of the farm families who did produce some of their own food averaged less than \$2.00 worth per person a week in homegrown items. (7)

Protean Protein



Soy protein isolate, extruded and spun into a variety of synthetic food products, is only one of the many soy protein products developed to meet today's food needs.

The growing demand for protein around the world is stimulating research in the U.S. to expand the food uses of soybeans—one of the world's best and cheapest protein sources.

At present, soy protein for use as a food is marketed in seven forms: flour, grits, protein concentrate, protein isolate, enzyme modified isolate, full fat flour, and enzyme active meal. All are defatted except the full fat flour.

Protein content varies with the form. Soy flour and grits each contain about 50 percent protein. Soy protein concentrates reach 70 percent protein, and the soy protein isolate packs in more than 90 percent protein.

And the price to food manufacturers seems to vary with the form though for the past few years the total price structure has been fairly steady.

In July 1968, soy flour and grits brought 6½ to 7 cents a pound to soybean processors. Soy concentrates went for 18 cents a pound, soy isolates for 35 to 39 cents a pound. Several enzyme modified soy meal products sold for 70 cents to \$1.20 a pound.

Three firms produced over 90 percent of U.S. soy flour and grits. The soy concentrates came from four processors. And three firms made all the soy protein isolate during 1967.

Here's how food manufacturers put soybean protein to work:

Bakery goods. Soy protein holds moisture. Adding it to bread and cake products helps keep them fresher longer. It also stops pancakes and doughnuts from holding too much grease, yet keeps them from sticking.

during cooking.

About 105 million pounds of soybean protein products were used by food manufacturers in 1967. Almost half of the total volume went into baked goods. Over the past few years, commercial bakery use has gone up 7 to 10 percent annually.

Meat products. Hot dogs, sausage, and other processed meats often contain small amounts of soy protein. It helps to retain natural juices, bind the ground meat together, and reduces shrinkage in cooking.

Some meat processors also say that adding soy protein to their product aids in cleaning their machinery.

Use of soy protein in meat products has been increasing in recent years at an annual rate of 5 to 6 percent, and in 1967 was close to 30 million pounds.

Vegetable protein foods and beverages. Most of these products are used by people who don't eat meat for religious reasons and for infants or older people who are allergic to other food products. Beverages made mainly from U.S. soy flour are now being marketed in several protein-deficient countries.

Other uses. Soy flour and grits go into artificial spices, add body and protein to pasta or macaroni-type products, reduce stickiness in candies, stabilize frostings and whipping cream.

Soy flour and grits are the lowest priced and most plentiful of soy protein products. More expensive soy protein isolates are being used in simulated meat products.

Isolates are spun or extruded into fibers to get the texture of meat; and they absorb natural or artificial flavor and coloring. The high protein content of the isolates can make the simulated product as nutritious as the natural one and also may lessen

refrigeration requirements.

Several simulated meat products are now being market tested. Some—including a bacon-type product—are already on retail shelves.

There are some drawbacks to the food use of soy proteins. The cheaper forms, soy flour and grits, have a bitter, beany flavor and produce gas during digestion. Researchers are at work to resolve these problems. Even the soy isolate and concentrate have some flavor problems which limit their range of use.

If soy protein is used in a product with strong flavorings and spices, the soy flavors can be masked successfully. But when used in dairy and bakery-type products this is difficult to do.

Marketing specialists, food researchers, and soybean growers are nevertheless optimistic about the soybean's future in food.

As a crop, it gives a high yield of edible protein for each acre. And it's adaptable to a variety of growing conditions.

With continued improvements in both production and processing methods, the soy protein that is in many cases an experimental ingredient today may be a food staple of tomorrow. (8)

Most Feed Grains Ride the Rails To New England Manufacturers

What makes a freight rate change? Competition—among other things.

Down in the Southeastern States, competition from barges and trucks affects rail rates—to the advantage of livestock and poultry feed producers. They can get reduced rail rates on large-volume shipments of feed corn for their operations.

The situation is different in New England. Though feed producers there are trying to cut their freight costs, the railroads don't face as much competition

and have little incentive to offer special rates to feed producers for volume shipping. Covered hopper cars, carrying upwards of 100 tons, are being seen more frequently on New England lines, but other more extensive forms of large-volume reduced-rate shipping aren't available to feed manufacturers at this time.

New England is a feed-deficit region and freight costs usually make up more than 20 percent of the cost of acquiring feed ingredients.

Feed accounts for 60 percent of the expense of producing broilers and eggs, and 40 percent of livestock production costs in New England.

So any savings a feed manufacturer can realize on freight and pass on to his customers could boost New England's competitive position with other livestock and poultry producing regions.

Six hypothetical, though typical, New England feed firms were used by ERS to study possible reductions in costs of transporting feed corn to the region.

Only two of them were large enough to use unit train rates, but all could have taken advantage of rates for multiple car shipments. Both types of volume shipping are available to South-eastern feed producers.

Making similar rate systems available in New England could reduce costs of moving feed corn by at least \$3 to \$5 per ton. (Costs now average anywhere from \$8 to \$12 per ton.) This could lower costs of poultry feed containing 60 percent corn by \$2 to \$3 per ton.

Whether this would actually strengthen the competitive position of the livestock and poultry industry in New England is uncertain. That would depend on whether feed manufacturers were willing to pass their savings on to producers, and also on the health of the industries in competing regions. (9)

SUNFLOWERS RING UP RUBLES



Phenomenal Soviet production of sunflowers, coupled with new oil extraction methods, is making "sun" oil competitive with soybean oil in international market.

The United States is No. 1 when it comes to soybeans. We produce about 75 percent of the world's supply and ship about 90 percent of the world's exports.

But when it comes to sunflowerseeds and oil, we're at the bottom of the production barrel. As for exports, none.

Most of the world's sunflowerseeds and "sun" oil—come from the Soviet Union. With a record sunflowerseed harvest of 6.1 million metric tons in 1967 and a crop near that level in 1968, the USSR accounts for about two-thirds of world output and three-fourths of trade in terms of oil.

Altogether, Soviet production of vegetable oils rose 265,000 tons in 1967 to reach 3.0 million metric tons. Nearly all of the gain and almost three-fourths of the total were derived from sunflowerseed. Most of the rest came from cottonseed. Of the total, all but about 3 or 4 percent was edible.

In little more than a decade, the Soviets have increased their sunflowerseed production almost 70 percent and sun oil output almost 138 percent.

At the same time, from 1957 to 1967, USSR exports of sunflowerseed oil increased almost tenfold.

These massive gains have pushed sunflowerseed oil from fifth to second place (though well behind soybean oil) in world production and exports of vegetable oils. Sun oil's share of total vegetable oil exports has risen from 4 percent in 1960 to possibly 16 percent in 1968.

Soviet vegetable oil output as a whole has climbed about 200,000 tons annually. Domestic food use has increased by about 100,000 tons each year, while indus-

trial use has remained fairly constant. Most of the 100,000-ton surplus has moved into trade rather than stocks.

Soviet exports of vegetable oil topped 700,000 tons in 1967 to constitute about a fifth of world trade in the edible vegetable oil market. Of the USSR shipments, sun oil made up 670,000 tons. And 304,000 tons of sunflowerseeds were also exported.

Why has the sunflower received so much attention in the Soviet Union and comparatively little in the United States—on the continent where the sunflower originated?

There are good reasons in both instances.

In the United States, soybeans have met with such success that they have taken precedence over other oilseeds. Largely because of the soybean, the United States today provides about one-fourth of the world's edible vegetable oils and nearly one-third of world exports.

U.S. producers have favored soybeans because they are a dual purpose crop—supplying a favorable balance of edible oil and meal. A 60-pound bushel of soybeans will yield about 11 pounds of oil and about 48 pounds of meal. Oil satisfies domestic and export requirements and the meal is an important ingredient in mixed feeds for domestic livestock rations.

Too, soybeans thrive in a warm climate, and farmers in the Corn Belt and Midsouth often plant soybeans on surplus acreage or as an alternative crop. The increasing market demand for soy protein is also an incentive to growers.

In the Soviet Union, the sunflower offers advantages comparable to those enjoyed by the soybean in the United States.

The sunflower is the most drought resistant of oilseed crops and also thrives where summers are relatively cool. It is therefore well suited to often harsh grow-

ing conditions in the USSR. Sunflowerseed production is most heavily concentrated in the north Caucasus and the eastern Ukraine.

In its emphasis on sunflowers, the Soviet Union has pressed primarily for oil content of the seed.

Beginning in 1957, the Soviets steadily expanded area planted to sunflowers until it reached a peak of 5.0 million hectares (about 12.5 million acres) in 1966. Acreage in sunflowers then declined about 5 percent, but higher yields have maintained output at record levels.

Harvests in the 1963-67 period averaged 5.2 million tons—90 percent above the 1953-57 average of 2.8 million tons.

In the 10 years between these periods, yields climbed 61 percent but planted area rose only 17 percent.

The average USSR sunflower-

seed yield of a little more than 1,000 pounds per acre in 1966 was about 13 percent more than the average Minnesota-North Dakota yield for sunflowerseeds the same year. (These two States account for most of U.S. commercial output.)

The sharp increases in oil content and yields of Soviet sunflowerseeds are due largely to selective breeding and other research work of the All-Union Scientific-Research Institute on Oilseed Crops.

With the press method, average oil extraction rates were raised from less than 28 percent in 1950 to almost 40 percent in 1965. Using the solvent method, rates were advanced from 31 percent to almost 44 percent.

Since then, the average extraction rate has continued to climb. The average rate for all crushings—at about 44 percent in 1967—reflected greater use of the solvent extraction method and the continuing development of high oil varieties.

Government policy has also tended to favor sunflowerseed. Plans for government purchases of sunflowers are established at the national level and farm purchase contracts are signed for these quantities. In recent years these plans have been overfulfilled. (In 1967 and 1968 the government has purchased just under 5 million tons each year out of crops which exceeded 6 million tons.)

Prices, however, are not negotiated in the contracts but are set by government decree.

Farms have been encouraged to exceed established quotas and collectives receive 100-percent premiums on amounts sold to the government above the previous 3-year average.

Sunflowers are a profitable crop in the Soviet Union. The basic state purchase price in the Ukraine is 165 rubles per ton. (One ruble is about \$1.11 at official Soviet exchange rate.) (10)

Supermarkets' Sundry Sales



When the cupboard's bare of soap, shampoo, or silver polish, many a shopper heads for the supermarket, to stock up. This is why grocers' nonfood sales boom.

With a soft whrrr, an electric eye opens the door for Mrs. Shopper as she wheels her cart out of the grocery store to the parking lot.

An attendant helps her load her groceries into the family car. One of the bags is crowned with a head of lettuce; from another, a roll of paper towels peers.

The average American shopper buys a lot more than food at the grocery store. As a matter of fact, sales of shampoos and alcoholic beverages and headache remedies—and lightbulbs and the like—represented 26.6 percent of the value of grocers' sales in 1967.

We spent about \$17.6 billion at the grocery store for nonfood items in 1967—7 percent more than we did in 1966.

The value of our food purchases, \$48.5 billion, was only slightly higher than in 1966.

In other words, the nonfoods—not the foods—were chiefly responsible for the 2-percent gain registered in the value of grocers' sales in 1967 over 1966.

A grocery store manager with an eye to where the action is knows that his shelves of nonfood products generate just about as much business as his meat, poultry, and fish counters (which together contributed a fourth of his total store sales in 1967).

He can count on taking in about as much money from sales of housewares and household supplies (including cleaning and paper products) as from dairy products. And as much from pet

foods as from eggs.

The top selling nonfood items, in terms of their importance in total store sales, are: housewares and household supplies (they contributed 6 percent); alcoholic beverages (5 percent); tobacco (4 percent); and health and beauty aids (over 3 percent).

Other nonfood items such as pet foods and magazines each contributed 2 percent or less to total sales.

Despite the boom in trade of nonfoods, selling foods is still the major business of America's grocers.

Edibles made up almost three-fourths total store sales in 1967. And livestock products were the biggest part of the total at the checkout counter.

Meats accounted for 20.4 percent of all store sales; poultry for 3.7 percent; fish for 1.6 percent; eggs for 1.0 percent; and dairy products for 6.8 percent.

Here are the breakdowns for other food products:

Fruits and vegetables (in fresh and processed form), 17.7 percent; cereal and bakery products, 9.1 percent; foods such as frozen prepared products, baking needs, sugars, jams, and dressings, 8.1 percent; and nonalcoholic beverages, 5.0 percent.

We spent about half a cent less of our food dollar for meat, poultry, and fish in 1967 than the year before. However, this group still accounted for over a third of our total food dollar.

Consumer spending on all livestock products in 1967 was down about 1 percent from 1966, while that for other food products was up about 1½ percent.

Fresh fruits and vegetables and cereal and bakery products each claimed slightly more of the average dollar spent for food in 1967 than in 1966.

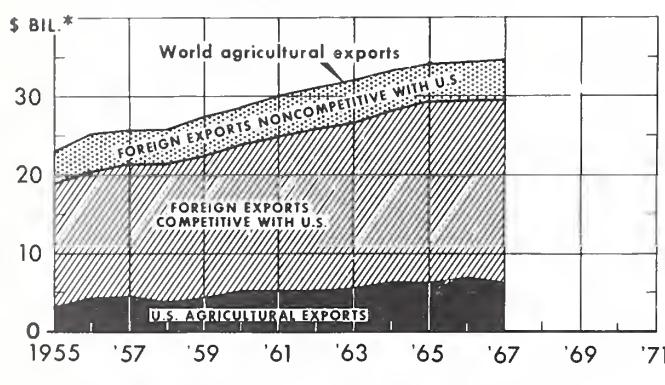
Frozen precooked food sales registered a 9-percent gain. However, 1967 sales were still only a small part—2 cents—of our food dollar. (12)



AGRICULTURE AROUND THE WORLD ...

The United States is the world's leading exporter of farm products. One out of every 4 acres of U.S. farmland is harvested for export. And the U.S. farmer today produces enough to feed and clothe himself and 41 others at home and abroad.

U.S. AND WORLD AGRICULTURAL EXPORTS



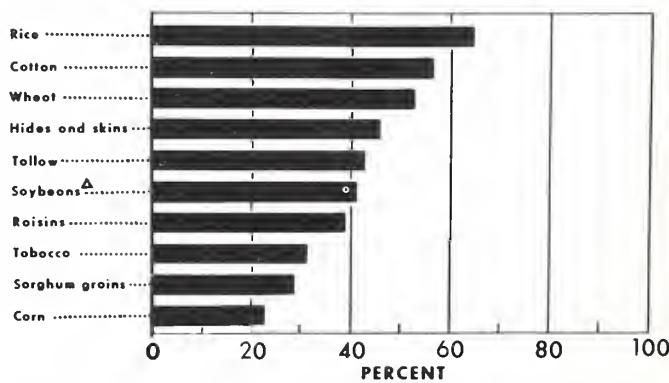
* QUANTITIES TRADED VALUED AT 1965-67 AVERAGE PRICES OF U.S. EXPORTS OR IMPORTS.

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 3367-68 (9) ECONOMIC RESEARCH SERVICE

The U.S. share of world agricultural exports for calendar year 1968 showed perhaps a slight decline from 1967 though a larger volume of exports was in sight for fruits, vegetables, and oilseeds and products. Wheat and cotton exports were trending down. Of the almost \$35 billion value of world agricultural exports during 1967, the United States contributed over \$6 billion or close to 20 percent.

10 LEADING U.S. AGRICULTURAL EXPORTS, AS PERCENTAGE OF FARM SALES, 1968*

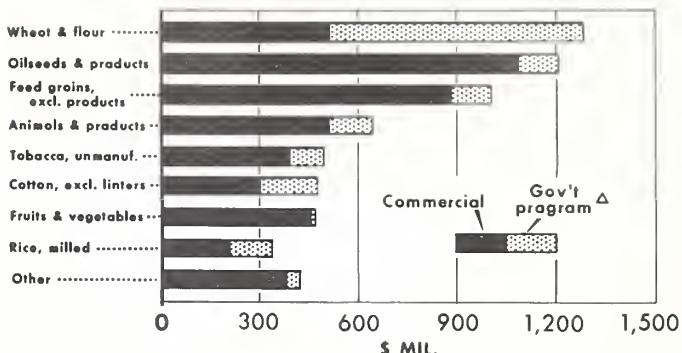


EXPORTS COMPARED WITH FARM SALES EXCEPT WITH PRODUCTION FOR RICE, HIDES AND SKINS, TALLOW, COTTON, AND TOBACCO. *YEAR ENDING JUNE 30. △ INCLUDING MEAL.

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 5339-68 (9) ECONOMIC RESEARCH SERVICE

U.S. AGRICULTURAL EXPORTS, BY COMMODITY GROUP, 1968*

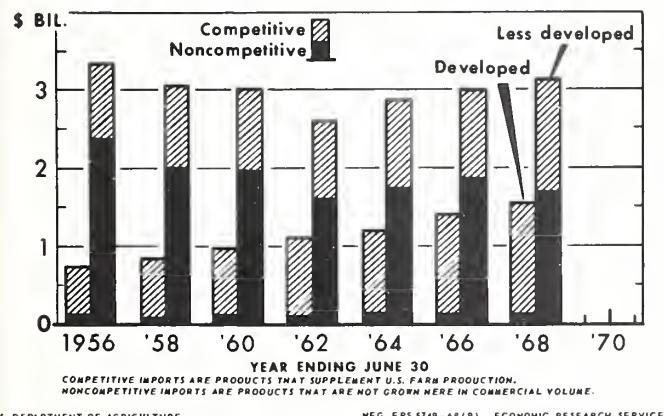


* YEAR ENDING JUNE 30. △ GOVERNMENT-FINANCED PROGRAMS, P.L. 83-480 AND P.L. 87-195.

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 2906-68 (9) ECONOMIC RESEARCH SERVICE

U.S. AGRICULTURAL IMPORTS FROM DEVELOPED AND LESS DEVELOPED COUNTRIES

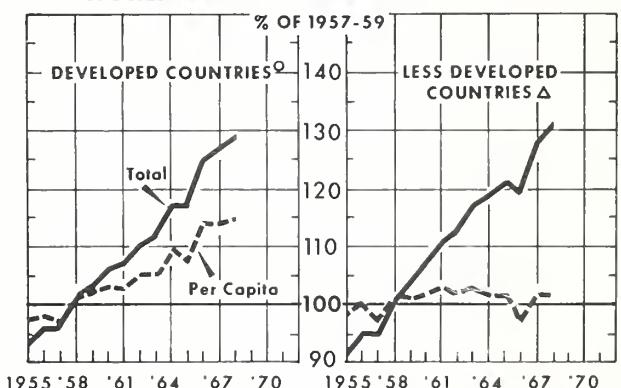


U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 5749-68 (9) ECONOMIC RESEARCH SERVICE

Over \$3 billion worth of the \$4½ billion U.S. agricultural import total for 1967/68 came from the less developed nations. And just about half of the \$3 billion was in products which are not competitive with U.S. farm products. U.S. agricultural imports from both developed and less developed countries have been on the rise in recent years. Fiscal 1968/69 will probably see this trend continuing.

WORLD AGRICULTURAL PRODUCTION



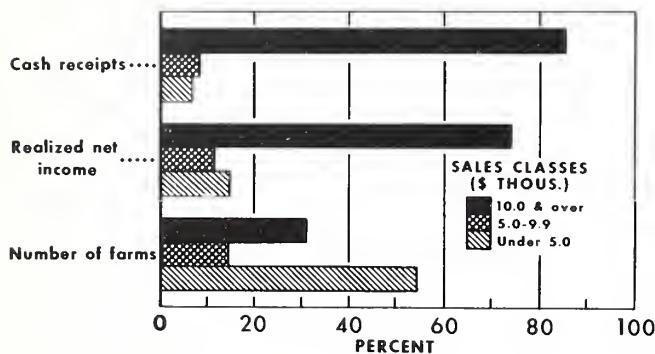
U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 4750-68 (12) ECONOMIC RESEARCH SERVICE

... AND AT HOME

The U.S. farmer began 1969 with strong domestic demand for his products and an upward trend in realized income per farm. But supplies of farm products continued at record levels.

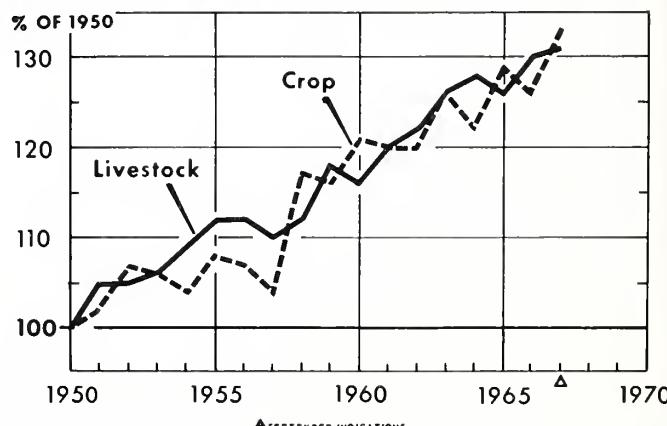
F FARMS, CASH RECEIPTS, AND NET INCOME BY SALES CLASSES, 1967



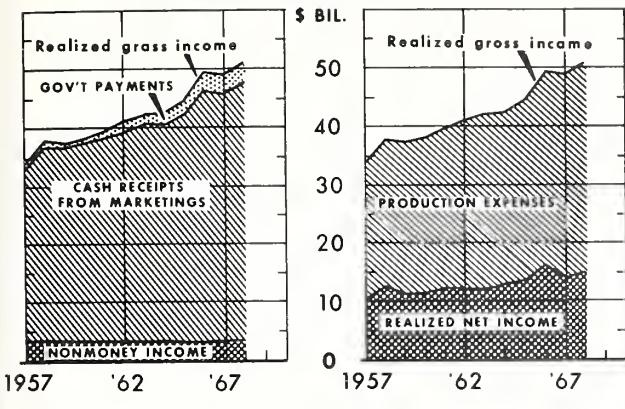
A silhouette of U.S. farming shows farms with sales over \$10,000 make up close to a third of U.S. farms. In a recent year, they took in over 85 percent of cash receipts and accounted for over 70 percent of realized net income from farming. But small farms with sales under \$5,000 make up more than 50 percent of the total number of U.S. farms.

U.S. farm output continued its gains through 1968. The outlook in the first half of 1969 is for a further rise in market supplies, and possibly a slower growth in consumer demand. This may put some pressure on farm product prices. At the grocery store, however, prices are expected to hold fairly stable in the first half of the year.

CROP AND LIVESTOCK PRODUCTION



FARM INCOME COMPONENTS

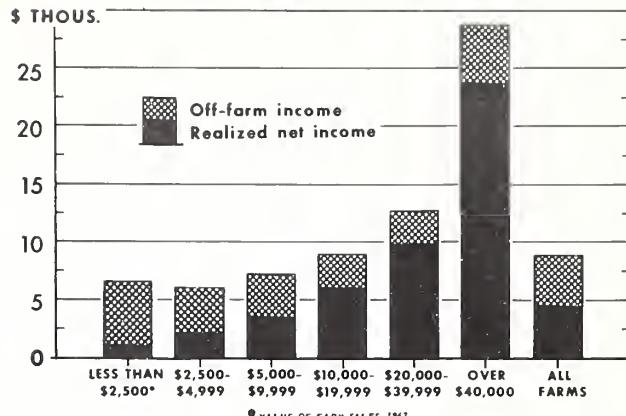


50 STATES STARTING IN 1960.

U.S. DEPARTMENT OF AGRICULTURE

NEG. ERS 3780-68 (12) ECONOMIC RESEARCH SERVICE

FARM FAMILY INCOME, 1967

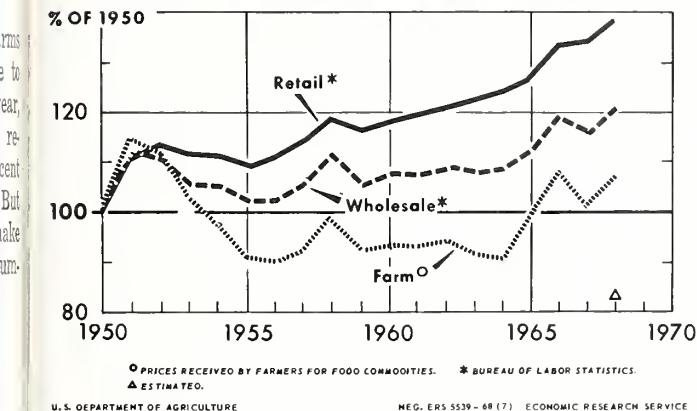


* VALUE OF FARM SALES, 1967.

U.S. DEPARTMENT OF AGRICULTURE

NEG. ERS 5811-68 (12) ECONOMIC RESEARCH SERVICE

FOOD PRICES: RETAIL, WHOLESALE, AND FARM LEVELS



○ PRICES RECEIVED BY FARMERS FOR FOOD COMMODITIES.

* BUREAU OF LABOR STATISTICS.

△ ESTIMATED.

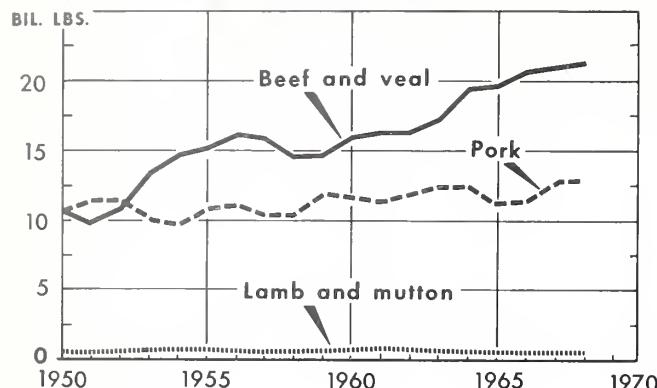
U.S. DEPARTMENT OF AGRICULTURE

NEG. ERS 5539-68 (7) ECONOMIC RESEARCH SERVICE

Realized net farm income was around \$15 billion for 1968, up more than 5 percent from 1967. Higher prices and a record volume of marketings boosted both cash receipts and gross farm income, and further gains are likely this year. Realized net income per farm reached about \$4,900, sharply above 1967's \$4,526 per farm. But many farm families still depend on off-farm income to round out their budgets.

THE COMMODITY OUTLOOK . . .

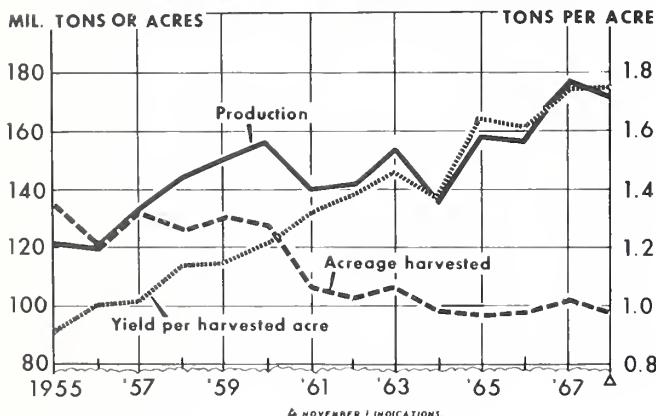
MEAT PRODUCTION



U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 5813-68 (121) ECONOMIC RESEARCH SERVICE

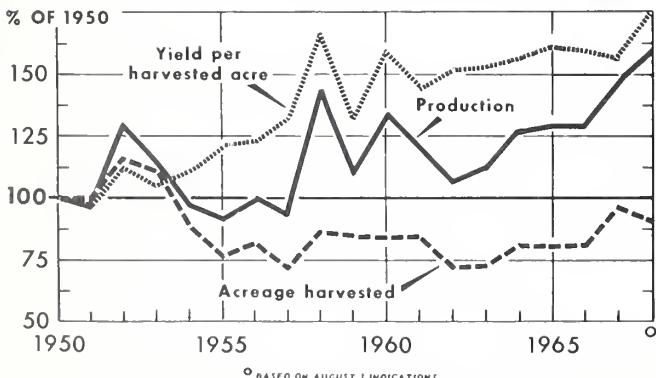
FEED GRAIN ACREAGE AND PRODUCTION



U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 4652-68 (11) ECONOMIC RESEARCH SERVICE

WHEAT ACREAGE, YIELD AND PRODUCTION



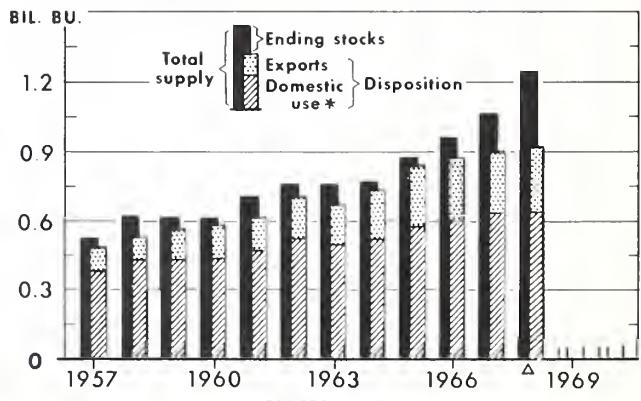
U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 3967-68 (9) ECONOMIC RESEARCH SERVICE

Larger beef and pork supplies are expected in the first half of 1969. Veal and lamb production will continue to drop. Demand for meats was unusually heavy in 1968, and though it is expected to continue at a high level through mid-year, it may not increase at 1968's rapid pace. This may bring slightly lower livestock prices.

Larger carryovers mean slightly increased feed grain supplies for the 1968/69 feeding year. Last fall's crop is expected to total slightly below the feeding year's requirements; livestock-feed price ratios pointed to a pickup in feed use. Another record wheat crop for 1968 weakened prices. The marketing year price for wheat may average close to the loan rate. Increased soybean supplies, due to larger stocks and greater output, stand in contrast to prospective disappearance only about matching 1967/68's total. Thus a further buildup in carryover is expected.

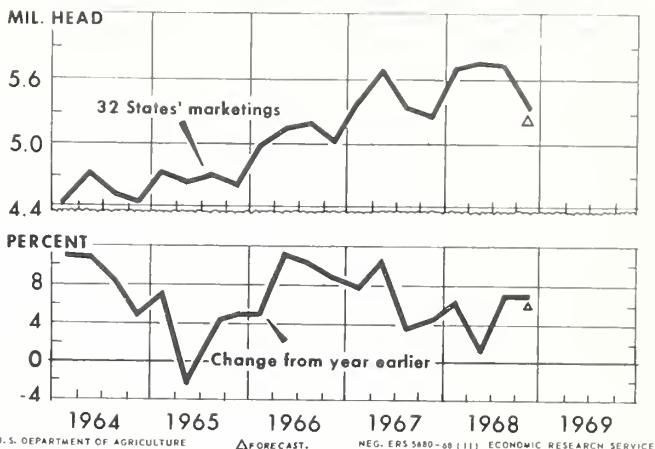
SOYBEAN SUPPLY AND DISPOSITION



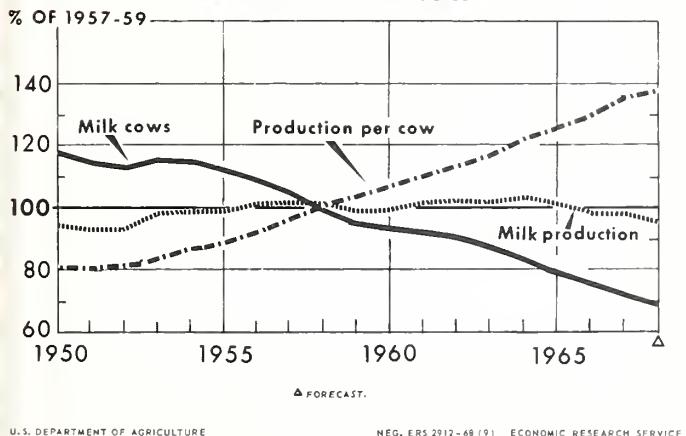
U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 5234-68 (121) ECONOMIC RESEARCH SERVICE

FED CATTLE MARKETINGS, BY QUARTERS

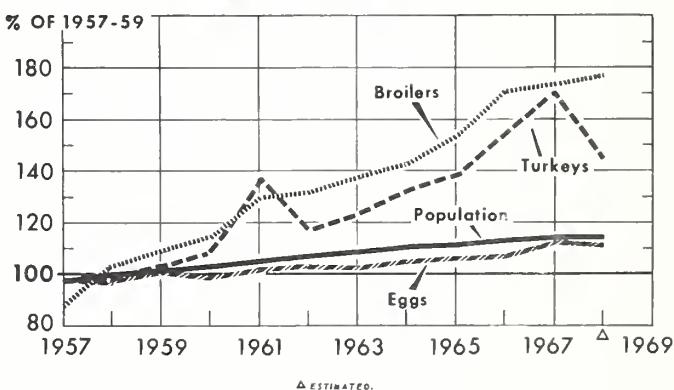


MILK PRODUCTION, COW NUMBERS, AND MILK PER COW

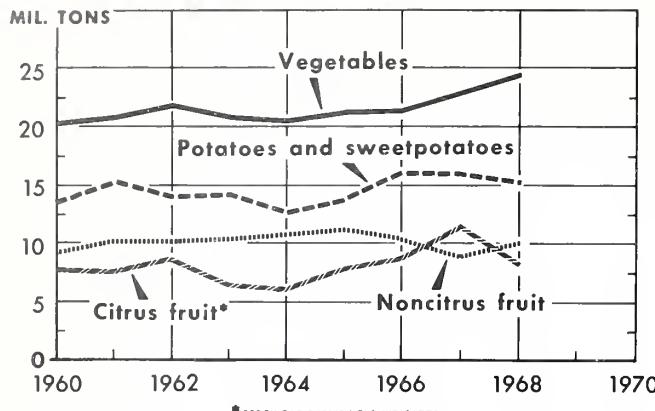


This year's milk production is likely to stabilize near the 118 billion pounds estimated for 1968. The decline in milk cow numbers is expected to slow somewhat, and output per cow to gain. Prices farmers receive for milk probably will be up some 5 percent from a year earlier through March. With present dairy supports and Federal order pricing, second quarter prices are likely to be up slightly.

POULTRY AND EGG PRODUCTION AND POPULATION



FRUIT AND VEGETABLE PRODUCTION

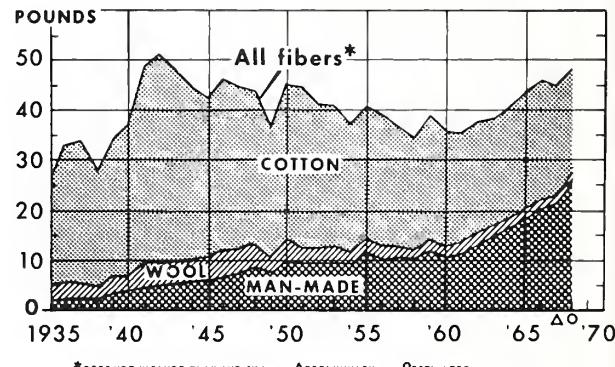


U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 5812-68 (12) ECONOMIC RESEARCH SERVICE

Citrus production, bouncing back from lows a year ago, brings larger supplies for fresh and processed use through the first half of 1969. Supplies of processed, non-citrus fruits will also be up this spring. Record supplies are in store for processed vegetables into mid-1969. Potato and sweet-potato supplies, however, were down slightly at the end of 1968.

MILL CONSUMPTION OF FIBERS, PER CAPITA



Mill consumption of all fibers was estimated to have risen over 7 percent during 1968. Consumption of manmade fibers—up 22 percent—surpassed cotton consumption for the first time. Use of wool ran about 10 percent above 1967 and is expected to continue upward this year.

*DOES NOT INCLUDE FLAX AND SILK. □ PRELIMINARY. ▲ ESTIMATED.

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 953-68 (11) ECONOMIC RESEARCH SERVICE

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FARMERS' EXPENDITURES FOR CUSTOM PESTICIDE SERVICE IN 1964. R. Jenkins and others, Farm Production Economics Division. AER-146.

This personal interview survey of 10,800 farms in 417 counties throughout the 48 States covers types of pesticides used, methods of application, and kinds of crops or livestock treated.

AN ECONOMIC ANALYSIS OF HAY HARVESTING AND UTILIZATION USING A SIMULATION MODEL. G. E. Frick, Farm Production Economics Division, and C. C. Cloud and R. A. Andrews, University of New Hampshire. N. H. Agr. Expt. Sta. Bull. 495.

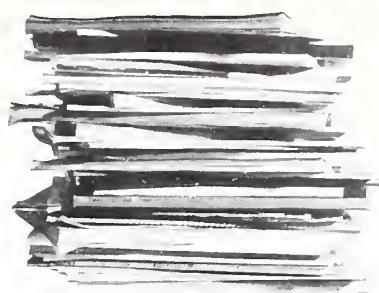
Hay is the most important forage fed to New Hampshire dairy cows, and the organization of forage harvest, as it affects the quality and quantity of hay harvested, substantially affects the total income, cost, and net income of a dairy operation.

THE SOUTHERN RICE INDUSTRY: AN OVERVIEW EXAMINATION. Agricultural Experiment Stations of Texas, Arkansas, and Louisiana cooperating with the Economic Research Service and Farmer Cooperative Service. Tex. Agr. Expt. Sta. South. Coop. Ser. Bull. 137.

Past trends and projections of future production, marketing, and consumption of rice grown in the South are analyzed.

PROJECTING ECONOMIC GROWTH POTENTIALS OF DAIRY FARMS IN SOUTH CAROLINA. C. P. Butler, Farm Production Economics Division. S. C. Agr. Expt. Sta. AE-318.

This analysis of representative dairy herds in South Carolina demonstrates a technique for estimating milk production and returns to future management under varying conditions and prices. The method could be useful in making management decisions with respect to individual farms.



RECENT PUBLICATIONS

The publications listed here are issued by the Economic Research Service and cooperatively by the State universities and colleges. Unless otherwise noted, reports listed here and under Sources are published by ERS. Single copies are available free from The Farm Index, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained only by writing to the issuing agencies of the respective States.

THE AGRICULTURAL ECONOMY AND TRADE OF DENMARK. M. H. Cohen, Foreign Regional Analysis Division. ERS-For. 244.

Postwar economic growth in Denmark, particularly after 1958, generally has been rapid. The government guided development during the late 1950's by encouraging the inflow of foreign capital and by liberalizing import restrictions on raw materials necessary for industrial production. Demand for Danish industrial products in Western Europe has stimulated the export sector and has swelled the total value of industrial exports since the late 1950's.

AN ECONOMIC EVALUATION OF THE SOUTHWESTERN NORTH CAROLINA RURAL RENEWAL AREA. J. Ben-Rubin, Economic Development Division. ERS-387.

This appraisal of the resources in a sparsely populated rural sec-

tion of North Carolina is designed to provide a basis for initiation of Federal programs. Ideally, such programs would foster a sound and expanding economy in slow growing rural areas by increasing farm and nonfarm income, eliminating under-employment, stimulating business activities, and restructuring community facilities and services. (See October 1968 Farm Index.)

COMPARISONS OF ACTUAL FARM INCOMES WITH PARITY INCOMES FOR MICHIGAN FARMERS, 1965 AND 1966. R. D. Duvick, Farm Production Economics Division, and J. N. Uhl, Purdue University. Mich. State Univ. AER-113.

A major concern of farmers has always been that farm operators should achieve earnings comparable to those in other lines.

Various methods have been proposed to measure the comparability, but parity prices have been the primary measure used in the United States since the 1930's. The relationships between farm size as measured by gross sales, farm income, and parity of income are examined.

AGRICULTURAL POLICIES IN AFRICA AND WEST ASIA. Africa and Middle East Branch, Foreign Regional Analysis Division. FAER-49.

No area has shown as much political change as Africa in the 1950's and 1960's. The number of independent African countries has grown from four to 40. Each has a unique agricultural policy which is summarized in this regional review. (See November 1968 Farm Index.)

OPEN SPACE: ITS USE AND PRESERVATION. J. M. Davis, Natural Resource Economics Division, and P. House, Economic Development Division, Misc. Pub. 1121.

In an increasingly urbanizing world, the multiple benefits of open space are becoming more important. Yet, efforts to pre-

serve land in open-space uses often fail. Two main reasons for this are misuse or lack of understanding of the term "open space" and choice of the wrong method for keeping the land open.

MAJOR USES OF LAND AND WATER IN THE UNITED STATES WITH SPECIAL REFERENCE TO AGRICULTURE: SUMMARY 1964. H. T. Frey, O. E. Krause, and C. Dickason, Natural Resource Economics Division. AER-149.

Available statistics on major uses of land and water have been summarized for 1964 and compared with previous periods. Significant changes and trends in use have been documented. (See November 1968 Farm Index.)

GHANA'S AGRICULTURAL ECONOMY IN BRIEF. M. A. Branham, Foreign Regional Analysis Division. ERS-For. 246.

Agriculture—the mainstay of Ghana's economy—accounts for about 50 percent of the gross domestic product, while farm commodities make up 70 percent of the value of total exports.

This report includes crop production and trade statistics for specific commodities.

IMPACT OF ECONOMIC OPPORTUNITY LOANS ON RURAL RESIDENTS: SOUTH CAROLINA, THE OZARKS, MISSISSIPPI DELTA, 1966. D. O. Steward, Economic Development Division. AER-151.

Many low-income families have been unable to achieve an adequate level of living. In rural America, the Farmers Home Administration has sought to alleviate the situation through Eco-

nomic Opportunity loans to needy families. An evaluation of the program, with recommendations for future operations, is included in the study.

EQUIPMENT TECHNOLOGY AND WEATHER ON RICE FARMS IN THE GRAND PRAIRIE, ARKANSAS, PART 1: FARM ORGANIZATION AND RISK. J. B. Hottel, W. R. Grant, and T. Mullins, Farm Production Economics Division. Ark. Agr. Expt. Sta. Bull. 734.

A major concern of farmers in Arkansas rice areas is the most economical combination of equipment and labor units needed on rice farms.

The magnitude of cost economies or the lack of economies associated with specified tractor combinations or sets of varying field capacities, investment costs, and labor are developed in this report.

ANALYSIS OF DEMAND FOR BEVERAGE MILK: ATLANTA, GEORGIA CONSUMER PANEL. J. C. Purcell, R. Raunikar, and J. C. Elrod, Georgia Agricultural Experiment Station, in cooperation with Farm Production Economics Division. Ga. Agr. Expt. Sta. Res. Bull. No. 43.

This study was concerned primarily with estimating the nature and magnitude of various socio-economic factors that are generally regarded as influencing household demand for fresh fluid milk and its related substitutes.

MARKETING AIDS FOR THE CATTLE FEEDER. R. J. Crom, Marketing Economics Division. MRR-819.

Cattle feeders in the United States buy and sell in a nation-

wide market. Thus, information concerning placements of feeder cattle, marketings from feedlots, and average weights is of value in making their own placement and marketing decisions. Estimates of future placements and subsequent marketings throughout the Nation are also of value when used in proper perspective with recent market reports and knowledge of special conditions such as adverse weather.

SMALL GRAIN PRODUCTION COSTS ON NORTH DAKOTA FARMS. R. R. Paul, Farm Production Economics Division, and D. O. Anderson, North Dakota State University. N. Dak. Agr. Expt. Sta. Stat. Ser. 2.

One of the objectives of this study was to provide economic information needed by individual farmers in making adjustment decisions in their farming systems and production practices to changes in product prices. Model farms were developed to represent significant groups of farms possessing similar production practices and resources.

RURAL HOUSING CONDITIONS IN THE ARKANSAS, MISSOURI, AND OKLAHOMA OZARKS. H. H. Spurlock, Economic Development Division, in cooperation with Arkansas Agricultural Experiment Station. Ark. Agr. Expt. Sta. Bull. 736.

Findings of this study indicate some of the changes in Ozark housing that have occurred since 1950, and improvement of conditions since 1960. Present inadequacies are detailed, and costs of remedying them are estimated.

Numbers in parentheses at end of stories refer to sources listed below:

1. D. Bostwick (SM); 2. W. G. Heid, Jr., D. K. Larson, and C. M. Smith (SM); 3. C. V. Moore and J. H. Snyder (SM); 4. W. D. Rasmussen (SM); 5. J. V. McElveen, Rural Industrialization in the Southeast Coastal Plain: Case Study of a New Brick Factory at Summerville, S. C. (M); 6. R. Nikolitch, A Comparison of Age Levels of Farmers and Other Self-Employed Persons. AER-126 (P); 7. O. W. Holmes, Jr., Some Problems in Identifying the Farm Poor (M); 8. C. P. Eley, "Food Uses of Soy Protein," Marketing and Trans. Situa., MTS-170 (P); 9. H. G. Coffin and W. R. Reilly, Rail Freight Rates: Potential Reductions on Corn

Shipped to New England, Maine Agr. Expt. Sta. (M*); 10. D. M. Schoonover, Soviet Sunflowers and the World Vegetable Market (S); 11. W. V. Dexter (SM); 12. H. Eklund, "Grocery Store Sales in 1967," National Food Situa., NFS-126 (P); 13. National Food Situation, NFS-126 (P).

Speech (S); published report (P); unpublished manuscript (M); special material (SM); * State publications may be obtained only by writing to the experiment station or university cited.

ECONOMIC TRENDS

ITEM	UNIT OR BASE PERIOD	'57-'59 AVERAGE	1967		1968		
			YEAR	DECEMBER	OCTOBER	NOVEMBER	DECEMBER
Prices:							
Prices received by farmers	1910-14=100	242	253	253	262	262	262
Crops	1910-14=100	223	224	231	228	227	221
Livestock and products	1910-14=100	258	277	272	291	292	296
Prices paid, interest, taxes, and wage rates	1910-14=100	293	342	344	358	359	360
Family living items	1910-14=100	286	322	325	339	341	341
Production items	1910-14=100	262	287	287	292	294	296
Parity ratio		83	74	74	73	73	73
Wholesale prices, all commodities	1957-59=100	—	106.1	106.8	109.1	109.6	109.8
Industrial commodities	1957-59=100	—	106.3	107.4	109.7	109.9	110.2
Farm products	1957-59=100	—	99.7	98.9	101.2	103.1	103.3
Processed foods and feeds	1957-59=100	—	111.7	111.5	114.4	114.7	114.7
Consumer price index, all items	1957-59=100	—	116.3	118.2	122.9	123.4	—
Food	1957-59=100	—	115.2	116.2	120.9	120.5	—
Farm Food Market Basket: ¹							
Retail cost	Dollars	983	1,080	1,086	1,132	1,124	³ 1,131
Farm value	Dollars	388	414	410	434	429	³ 436
Farm-retail spread	Dollars	595	666	676	698	695	³ 695
Farmers' share of retail cost	Percent	39	38	38	38	38	³ 39
Farm Income: ⁷							
Volume of farm marketings	1957-59=100	—	124	137	182	174	144
Cash receipts from farm marketings	Million dollars	32,247	42,788	3,833	5,235	4,937	4,100
Crops	Million dollars	13,766	18,383	1,921	2,707	2,728	2,000
Livestock and products	Million dollars	18,481	24,405	1,912	2,528	2,209	2,100
Realized gross income ²	Billion dollars	—	49.1	² 48.9	—	—	51.1
Farm production expenses ²	Billion dollars	—	—	² 35.0	—	—	36.3
Realized net income ²	Billion dollars	—	—	² 13.9	—	—	14.8
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	6,383	564	464	609	—
Agricultural imports	Million dollars	3,977	4,454	388	396	420	—
Land Values:							
Average value per acre	1957-59=100	—	⁴ 166	⁴ 166	⁵ 170	⁴ 176	⁴ 176
Total value of farm real estate	Billion dollars	—	⁴ 189.5	⁴ 189.5	⁵ 193.7	⁴ 200.6	⁴ 200.6
Gross National Product: ²							
Consumption ²	Billion dollars	457.3	789.7	811.0	—	—	887.8
Investment ²	Billion dollars	294.2	492.2	502.2	—	—	546.3
Government expenditures ²	Billion dollars	68.0	114.3	121.8	—	—	136.1
Net exports ²	Billion dollars	92.4	178.4	183.5	—	—	202.5
	Billion dollars	2.7	4.8	3.4	—	—	3.0
Income and Spending: ⁶							
Personal income, annual rate	Billion dollars	365.3	628.8	652.6	703.2	708.0	713.4
Total retail sales, monthly rate	Million dollars	17,098	26,151	26,368	28,706	28,891	28,273
Retail sales of food group, monthly rate	Million dollars	4,160	5,759	5,920	6,133	6,274	—
Employment and Wages: ⁶							
Total civilian employment	Millions	63.9	74.4	75.6	76.0	76.4	76.9
Agricultural	Millions	5.7	3.8	4.2	3.5	3.7	3.9
Rate of unemployment	Percent	5.8	3.8	3.7	3.6	3.3	3.3
Workweek in manufacturing	Hours	39.8	40.6	40.7	41.0	40.8	40.7
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	2.83	2.91	3.06	3.08	3.10
Industrial Production: ⁶							
1957-59=100	—	158	162	166	167	167	169
Manufacturers' Shipments and Inventories: ⁶							
Total shipments, monthly rate	Million dollars	28,745	45,712	47,961	52,560	52,685	—
Total inventories, book value end of month	Million dollars	51,549	82,819	82,819	87,566	88,182	—
Total new orders, monthly rate	Million dollars	28,365	45,928	49,463	53,931	53,384	—

¹ Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1959-61—estimated monthly. ² Annual rates seasonally adjusted fourth quarter. ³ Preliminary. ⁴ As of November 1. ⁵ As of March 1. ⁶ Seasonally adjusted. ⁷ Annual and quarterly data are on 50-State basis; monthly data are on 48-State basis.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Industrial Reports, Business News Reports, Advance Retail Sales Reports and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

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Nickel Bars To Go?

Remember the days when a nickel would pay for a cup of coffee or a soft drink, a pack of gum or a chocolate bar, a newspaper, a bus ride, a cigar?

Today, only the gum and the candy remain nickel items—and the 5-cent chocolate bar may not be around too much longer.

It seems like all the world loves a chocolate bar. In the past 3 years, those of us with sweet teeth have eaten up all of the globe's yearly cocoa production and much of its reserve stocks.

Our insatiable appetites have been pushing up cocoa bean prices. The smaller-than-expected 1968/69 cocoa crop brought 49 cents per pound (New York Spot "Accra") in the first half of December 1968, compared with 17 cents back in calendar 1965.

Prices will most likely stay high for a while—which is one reason why the nickel chocolate bar is in jeopardy. Other factors which may contribute to its demise are higher manufacturing and delivery costs for U.S. confectionery manufacturers.

Candy makers need to choose between upping prices, cutting product weights, or using extenders or cocoa butter substitutes.

One leading candy company has already made its decision. Recently it bade farewell to its nickel bars.

Higher prices aren't likely to sour the demand for sweets, however. Per capita confectionery consumption in 1968 probably totaled near the 19.6 pounds it reached in 1967—which was up nearly a fifth from 1959. (13)

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